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THE ORIGIN OF TRANSVERSE MOUNTAIN- VALLEYS AND SOME GLACIAL PHENOMENA IN THOSE OF THE SIERRA NEVADA.*

By JOSEPH LeCONTE.

I.—ORIGIN OF TRANSVERSE MOUNTAIN-VALLEYS.

Mountains are formed primarily by igneous agencies; but they have been subsequently so enormously modified by erosion as often to obscure their essential igneous origin. When we are amongst mountains, nearly all that we see, nearly all that constitutes scenery, is wholly the result of differential erosion. The same is true in even greater degree of valleys; for these are the lines of concentration of erosive energy. In whatsoever way valleys may have originated, they have been so greatly modified by erosion that any other possible mode of origin is not only obscured, but usually completely concealed. Thus it has come to pass, that valleys are usually treated as wholly due to erosion. This is undoubtedly true of many valleys and largely true of all valleys in their present forms. But the transverse valleys or cañons of the Sierra are so deep in proportion to their age—the process of erosion has been so

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exceptionally rapid, that we are led to suspect the presence of some concurring cause in rock-structure, induced by other agencies, which determined their places and facilitated their excavation.

Age of the Sierra Valleys. In general, we rightly suppose the age of mountain valleys to be that of the mountains themselves, whose sides they trench. For as soon as a mountain lifts its head above the ocean of which it is born, it is attacked by erosive agencies, a river-system is established, and the process of valley-making begins. But in the case of the Sierra, not only the valleys but the whole topography is of much more recent origin. To show this, it is necessary to give a brief outline of the history of this range.

History of the Sierra. At the end of the Jurassic period, the Sierra was formed by lateral pressure and strata-folding in the usual way, and a river-system was established. Of the form and height of the mountain thus made we know nothing. During the whole of the Cretaceous and Tertiary periods it was subject to continuous erosion, until at the end of the Tertiary it was reduced to very moderate dimensions, with all the characteristics of very old topography with its wide sweeping curves, broad shallow valleys, and low rounded divides. One cycle of mountain life was almost completed. The mountain was, so to speak, in a senile condition. The rivers had reached their base level of erosion—had done their work and rested—had almost gone to sleep. This condition is represented in the ideal diagram, Fig. 1.



Fig. 1. Generalized Section across the Sierra at the end of the Tertiary period. *S L* = Sea level, *sl* = Slates, *Gr* = Granite crest, *f* = place of future fissure.

At the end of the Tertiary this senile rest was rudely broken by the formation of a great fissure three hundred miles long, high up on the eastern slope, at the point marked *f*. The whole mountain block, three hundred miles long and from fifty to seventy miles wide, was heaved up bodily on its eastern side, transferring the crest to the extreme eastern edge, and increasing the height of the range many thousand feet. The crust-block to the east of the fissure at the same time dropped down and has been covered by the subsequent deposits of the plains on that side. All this is represented by the diagram Fig. 2, in which the letters represent the same as in the previous figure.



Fig. 2. Ideal Section across the Sierra after the uplift. *ML* = Mono Lake. Other letters the same as in Fig. 1.

The fault or dislocation of strata along this fissure was certainly not less than 15,000 feet, and was probably much more. For the fault scarp still existing is, in its highest part opposite Lone Pine, over 10,000 feet, and to this must be added the whole amount carried away from the crest by erosion since that time, and the depth of burial of the missing slates beneath the desert sediments. Of course, the original sheer fault-cliff has crumbled down to a steep slope.

We must not imagine that this uplift took place at once. It took place very gradually and yet paroxysmally, each paroxysm being accompanied by an earthquake. It is still going on. The Inyo earthquake of 1872 was undoubtedly caused by a readjustment of this great fault.

The effect of this great movement was the immediate rejuvenescence of mountain vitality, the revival of the erosive energy of the rivers, and the beginning of a new

cycle of mountain life. The mountain is yet in the early part of this new cycle. The whole of the present topography began to form at this time. This is the cause of a certain crudeness, a savage grandeur of the Sierra scenery. It is still in its youthful wildness, unsoftened by time, unmel-
lowed by age.

The old Tertiary crest of the Sierra was much farther west than the present, probably about the region of the Domes above the Yosemite; for there the erosive biting into the granite has been deepest and the granite itself is hardest. The present crest is not granite at all but metamorphic slates—remnants of the slates of the eastern slope as shown in Fig. 2. These slates are still found forming the highest summits, as Mt. Lyell, Mt. Dana, etc.

The diagram, Fig. 2, represents what may be called the "Mono Section," and is comparatively simple. As we go north the phenomena are more complex. The section through Lake Tahoe, Fig. 3, shows that the mountain here



Fig. 3. Diagram of Lake Tahoe Section. *L T* = Lake Tahoe. *C L* = Carson Lake.

is broken into two blocks, each heaved up on the eastern side, forming two summit-ridges, between which Lake Tahoe has accumulated. I have represented a repetition of the slates on this second block. This is probable as we will show presently. It cannot be verified because covered by the lake-waters.



Fig. 4. Honey Lake Section. *H L* = Honey Lake. *A V* = American Valley, *I V* = Indian Valley.

Fig. 4 represents the Plumas County section through Honey Lake, as given by Diller. The mountain is broken into three blocks, each heaved up on the eastern and dropped on the western side, forming three summit-ridges, separated by two valleys. According to Diller, the granite and the slate are repeated on each block. This probably means that there were here several parallel folds, each with its granite core exposed by erosion; each cresting and breaking on its eastern side, as shown in the ideal diagram, Fig. 5.



Fig. 5. Ideal Restoration of the Honey Lake Section. $f, f =$ planes of faulting.

In explanation of this figure it is necessary to say that it seems to be a general law of mountain formation, well exemplified in the Sierra, that they are usually asymmetric in form, the crest being nearer the landward side, but the folds produced by lateral pressure pushed over to the seaward side. For example, the Appalachian crest is toward the eastern land mass of Archean rocks, while the folds are pushed over toward the west where was the old Palaeozoic sea from which it was born. So also the crest of the Sierra was always, even before the rejuvenation at the end of the Tertiary, nearer the Basin region land mass, but its folds were pushed over toward the sea, *i.e.*, to the west. This is sufficiently evidenced by the eastward dipping of the western slates. All these facts I have attempted to represent in Fig. 5. The places of the faults which resulted in the Honey Lake Section, Fig. 4, are shown.

Thus then, it is quite certain that these three great longitudinal valleys were formed by block-tilting at the time of the second birth of the Sierra. It is probable that we have in Kern's River valley another example of the same

mode and time of formation. Here also we have two summit-ridges of nearly equal heights—14,000 feet—a western, Mt. Kaweah Range, and an eastern, Mt. Whitney Range, about fifteen to twenty miles apart, and the Kern's River valley thirty miles long lying between them.

Now, coincidently with, or possibly a little previous to, the faulting and uplifting by which the Sierra life was rejuvenated, there occurred great outbursts of lava from fissures near the crest, which poured down the western slope, filling up the old Tertiary river-channels, displacing the rivers, and forcing them to cut new channels, mostly on the divides between the old. This they did with surprising rapidity, partly on account of the increased slope and partly, I am convinced, on account of certain concurring causes in rock-structure of which we shall speak presently. The result is that the present river beds, in consequence of the greatly increased slope, are cut far below the old, leaving these latter with their lava-covers high up on the present divides.



Fig. 6. North and South Section across the River-system of the Sierra. r , r' = present river-bed; r' , r' = old river-bed; l , l = lava cap.

But the demonstration is, if possible, still more complete farther south, beyond the limits of the lava-flow. Here the rivers, of course, did not change their beds, but on account of the renewed elevation, immediately began cutting them deeper, leaving remnants of the old river-gravels hanging high up on the sides of the present cañons, as shown in Fig. 7.

It is evident, then, that the transverse valleys, as well as the longitudinal, were formed after the lava-flow, and therefore after the last elevation of the Sierra, *i.e.*, since the Tertiary. But they are so deep and in such hard rock,

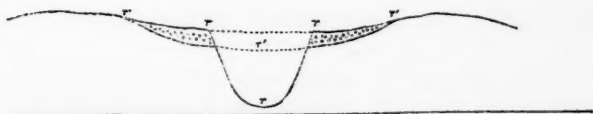


Fig. 7. Ideal Section across Lytle Creek Cañon. r, r, r = present river-bed; r', r', r' = old river-bed.

that we must suspect some concurring cause facilitating the process. This concurring cause, I believe, was the formation of transverse *fissures* at the time and as the result of the Post-tertiary elevation.

It was long ago pointed out by the English geologist Hopkins, that in every elevation along an axis there are two systems of fissures formed, one system parallel to the axis of elevation and the other at right angles to these, *i.e.*, transverse to the axis. The first system of fissures may be formed either by simple tension of elevation or by folding. The second system is formed only by tension in the direction of the axis, and is in direct proportion to the amount of elevation. In the elevation of a mountain, therefore, there is of necessity a tension along the crest in proportion to the amount of elevation. Suppose, then, a mountain to be elevated 20,000 feet. This is a very moderate estimate; for in most mountains at least two-thirds or three-fourths has disappeared by erosion. Now 20,000 feet is nearly four miles, which is 1-1000 of the radius of the earth. This would cause a stretch along the crest of the mountain of 1-1000, *i.e.*, of five feet per mile, or one hundred feet per twenty miles. This would certainly produce either distinct fissures or or at least *incipient* fissures, *i.e.*, a loosening of the rock along certain planes transverse to the axis of elevation. Such fissures or incipient fissures would determine the places of the transverse valleys and facilitate the process of excavation.

But great fissures are almost always faulted. Therefore, these valleys are probably, to some degree at least, fault-valleys. But the faulting is difficult, perhaps impossible,

to detect, because of the almost vertical position of the slates.

Thus, then, in the Sierra, as in the other mountains, there are two kinds of valleys, longitudinal and transverse. The former are, we know, produced by profound fissuring and faulting; the latter are also produced by fissuring and faulting, but far less profound. To the one class belong Lake Valley, American Valley, Indian Valley, and probably Kern's River Valley, and to the other belong all the deep cañons which trench the western slope. The same is true of all mountains, but the grandeur of the scale and the comparative recency of their origin, make the study of them easier in the Sierra.

Origin of Yosemite. But there is one kind of transverse valleys in the Sierra so remarkable and apparently so exceptional that they seem to require separate treatment and exceptional explanation. I refer, of course, to Yosemite, Hetch Hetchy, and others of like form, *i.e.*, valleys with almost vertical walls and flat floors. I wish first to show that they are not so exceptional as they seem, but on the contrary are only extreme examples of what are found in all parts of the world.

I once thought that these, as indeed all the valleys of the Sierra, were the result of pure erosion, mainly by water, but later by glaciers. Surely, thought I, the time from the end of Jurassic until now is enough to do all the work and much more; although we now know that even so, the style of work would have been very different. But I did not then perceive, as I did later,* the comparatively recent origin of the whole topography of the range. Some have supposed that the valley was gouged out entirely by ice during the glacial epoch. To think so is to exaggerate both the erosive power of ice and the length of the glacial period. We have no reason to think that the erosive power of ice is at all greater than that of water, and yet the

* See paper, "A Post-Tertiary Elevation of Sierra," American Journal of Science, vol. 32, p. 167, 1886.

amount of change since the glacial period is so insignificant that the time necessary to gouge out the whole valley by ice or by any known agency at the same rate, must be estimated not by hundreds of thousands nor even by millions, but by tens of millions of years.

I now believe that Yosemite and like valleys were formed by a *double fissure* and a *dropped wedge between*. Valleys formed in this way are found in all countries, but these are extreme types. It will be best, therefore, to come to their explanation after taking up less extreme types. The best examples of this kind are found in the Basin region especially in its northern part, *i.e.*, in Southern Oregon and North-eastern California.

Basin Structure. We owe to Gilbert the first directing of scientific attention to the unique structure of the Basin region. The whole region is broken by north and south fissures into great oblong crust-blocks, ten to twenty miles wide, and fifty to a hundred miles long, which by gravitational readjustment have settled unequally; sometimes heaved on one side and dropped on the other, giving rise to north and south ridges with intervening valleys; (Fig. 8) some-



Fig. 8. Section across a portion of the Basin-region.

times lifted bodily, giving rise to table forms; sometimes dropped bodily, giving rise to flat-bottomed valleys (Fig. 9.) The orographic forms thus produced depend on the hade or inclination of the plane of the fissures. If they hade in the same direction, the blocks are tilted, *i.e.*, heaved on one side and dropped on the other. The valleys thus formed are often occupied by lakes. If two successive fissures hade in opposite directions away from one another or anticlinally the intervening block is lifted bodily. If they hade in opposite directions toward one another or synclinally then

the intervening wedge-shaped block drops bodily. Admirable examples of these several forms are found in the northern part of the Basin in North-eastern California and Southern Oregon.



Fig. 9. Section across a portion of Southern Oregon. *LA* = Lake Abert, *LW* = Lake Warner. From Russell.

It is only the last case, *viz.*, that in which the intervening block drops, that we are concerned with here. We will give some remarkable examples, first from our own country and then from other countries.

1. *Surprise Valley*. This valley in Modoc County is fifty miles long and only from ten to fifteen miles wide, and bounded on each side by a lofty mountain ridge. It is a double fault and dropped wedge, as shown in Fig. 10.



Fig. 10. Ideal Section across Surprise Valley.

The cliffs on the two sides have of course crumbled down to steep slopes. This valley was undoubtedly occupied at one time by a continuous lake fifty miles long. But this is dried away to three smaller lakes, called respectively Lower, Middle, and Upper Lake.

2. *Owen's River Valley* is probably another example of gigantic proportions. This great valley lying along the eastern base of the Sierra is about one hundred miles long and from fifteen to twenty miles wide. On one side rises the steep fault-scarp of the Sierra ten thousand to eleven thousand feet, and on the other the Inyo Mountains eight

thousand feet above the valley. It is almost certainly a dropped block with a fault-scarp on each side.

Foreign Examples. Similar valleys are found elsewhere and usually give rise to very striking scenery. In some cases the sunken block can be seen and identified with the rock at the top of the cliff and the amount of drop measured.

1. Achensee is a beautiful little lake in the Tyrol, that occupies a sunken block valley, in which the dropped block may be identified by its fossils, with the rocks at the top of the cliff.*

2. The valley of the Rhine, celebrated for its bold features, is, in its upper part (not the gorge), formed in a similar way. It is a great trough twenty to thirty miles wide with flat floor bounded by nearly vertical walls.†

3. But the most wonderful example known is the Jordan and Dead Sea Valley in Palestine. This also is a dropped wedge between two faults. The drop in this case cannot be less than 6000 feet and probably much more, for the depth of the Dead Sea bottom below the plateau on each side is 5600 feet and to this must be added the amount worn from the plateau above and the amount filled in on the bed of the Dead Sea, since the beginning of the Miocene.

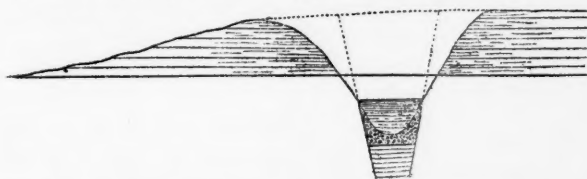


Fig. 11. Ideal Section across the plateau of Palestine. The dotted lines represent a restoration of the valley-walls as they would be if uncrumbled.

This great valley has been traced southward through the Wady Arabah and the Gulf of Akaba to the Red Sea, a distance in all of 375 miles; and has been regarded as the

*I am indebted to Dr. Merriam for this example.

†I am indebted to Professor Lawson for this example.

longest, as it certainly is the lowest, fault-valley in the world. Very recently its continuation southward has been traced through the Red Sea and thence by two branches through the lakes of Eastern Africa to Lake Tanganyika and Lake Nyassa and thence to the gorge of the Zambesi, a distance in all of 4000 miles (Fig. 12). At least thirty lakes are found in the course of the eastern branch. Through much of this distance the double fault and dropped wedge is unmistakable. It has been called by Suess and by Gregory "the Great Rift Valley." It is indeed a rift, not of a region but of a continent.

Now I believe Yosemite and Hetch Hetchy are only extreme examples of double fault-valleys. The exceptional verticality of the walls of these is due to the extreme recency of their origin, the hardness of the rocks, their recent occupancy by ice, and especially to the vertical cleavage of the granites in this region. This last must not be left out in any theory of the origin of the Yosemite. The walls are now very slowly receding by vertical scaling and thus retain their perpendicularity.

Doubtless the original valley was both deeper and narrower than the present—deeper by the amount worn off above and the much greater amount filled in below,—narrower by the amount scaled off from the walls.

It will be remarked that this is substantially the original explanation given by Whitney, and I take great pleasure in giving him credit for it. But at that time (1868) and until very recently it seemed a violent hypothesis. The reasonableness of the view could not be perceived until the law of gravitative readjustment of crust-blocks was known, until the enormous Post-Tertiary re-elevation of the Sierra was brought out in 1886, and until the phenomena of valleys formed by double fault and dropped wedge were recognized in other parts of the world. All the more credit is due Whitney for his remarkable prevision.

Of all the valleys of this kind in the Sierra, Yosemite is the best known: but Hetch Hetchy is an equally or even

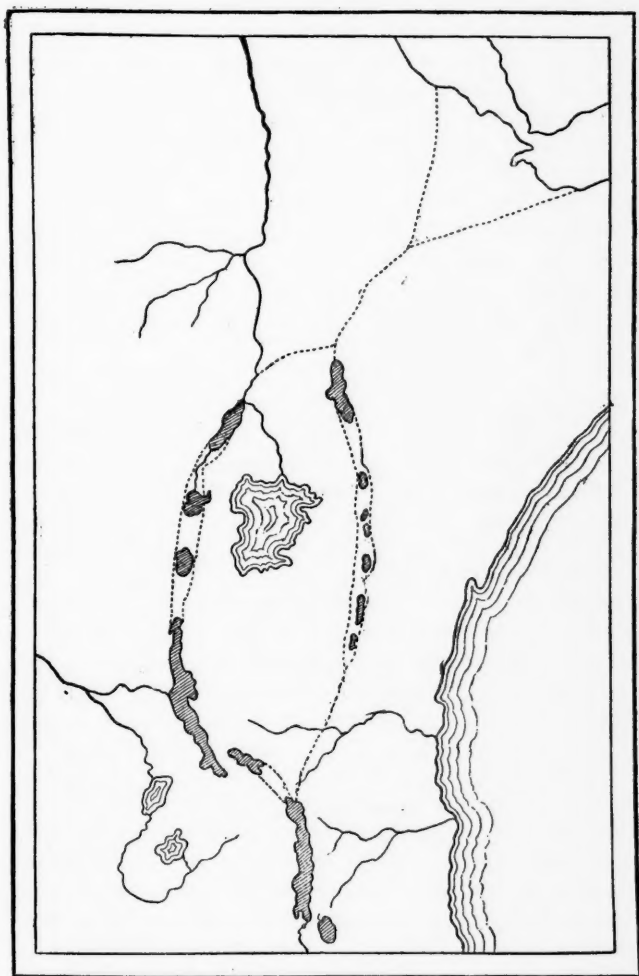


Fig. 12. A Map of Eastern Africa, showing the course of the Great Rift Valley.

perhaps more typical example. Strawberry Valley on the south fork of the American River is another but smaller and less typical example. It is not improbable that some other Sierra valleys, especially the wonderful valleys of the branches of King's River were formed in a somewhat similar way. In fact, all gradations may be traced between typical Yosemite and the ordinary V-shaped valleys.

It is worthy of remark that all the typical Yosemite occur in the granite, near the flanking slates but not in the slates themselves. They occur in or near the region which I suppose was the old Tertiary crest. Their formation was doubtless determined by the perpendicular cleavage of the granite in this region.

II.—SOME GLACIAL PHENOMENA IN THESE VALLEYS.

So much for the origin of transverse valleys, and especially Yosemite. I wish now to draw scientific attention to some remarkable glacial phenomena in these, determined by their peculiar form. I take first Hetch Hetchy, because the phenomena are far more distinct there. In fact, I am not sure that I would have remarked them in Yosemite if I had not first seen them in Hetch Hetchy.

The great Tuolumne Glacier taking its rise in the Mt. Lyell group and receiving tributaries from Mono Pass, Mt. Gibbs, Mt. Dana, Mt. Warren, etc., filled the big Tuolumne meadows as a great *mer de glace*, and after sending an overflow branch through Lake Tenaya and the Tenaya cañon to join the Yosemite glacier, went on down the Tuolumne cañon into Hetch Hetchy and still onward to leave its terminal moraine a little beyond. From its fountain cirque in Mt. Lyell to its terminal moraine below Hetch Hetchy, this great glacier was at least forty miles long.

We will not follow its gradual retreat back to its fountain snows in Mt. Lyell where its feeble remnant still remains. Suffice it to say that at its maximum it filled

Hetch Hetchy to the brim. This is shown not only by the terminal moraine some distance beyond the limits of the valley, not only by the perfect glaciation of the granite bed-rock well exposed in one place on the floor of the valley,* but also (*a*) by patches of polished glaciated surfaces which may be seen glistening in places on the inaccessible northern wall to the very top: (*b*) by the straight parallel horizontal flutings on the same wall at various levels to the top and produced, as I suppose, by rock fragments jammed between the sides of the glacier and the wall; and (*c*) still more indubitably by large boulders three feet in diameter perched in insecure positions on narrow ledges only two to three feet wide, evidently shunted there when the glacier was at that level.

Contrast between the North and South Walls. Now, it is necessary to observe that all these signs of glaciation are found only on the north wall. There is indeed the greatest contrast between the two walls. The north wall in most parts is a sheer precipice of smooth sound rock, coming down and burying itself in the soil of the valley without talus. The south wall, on the contrary, has crumbled down to a scaleable slope, is largely covered with rock fragments and soil, and is overgrown with bushes.

Explanation. The explanation of the contrast is not far to seek. The valley runs east and west and is very deep (2500 feet) and narrow. The sun, therefore, shines full on the north wall and keeps it warm and dry, and therefore sound; while the south wall, on the contrary, is constantly in the shade and therefore moist. The moisture induces decomposition and crumbling of the rocks and the formation of soil. The soil still farther retains the moisture and increases the decomposition of the rocks. The soil also serves as foothold for vegetation and the vegetation again increases the moisture. Also vegetation forms humus, and humus is a most powerful agent of decomposition of rocks and formation of soil. All these agents act

*It is not improbable that this is a portion of the dropped wedge.

and re-act to produce crumbling of the south wall. Meanwhile the north wall has remained in much the same condition as that in which it was left by the retreat of the glacier.

The same contrast is seen between the two walls of Yosemite; but far less distinctly because the valley is wider and more branching, and also because the time is longer since the final retreat of the glacier. But once attention is called to it, especially if the eye has previously been educated by observation in Hetch Hetchy, it cannot escape notice. In several places on the north wall, as at El Capitan, at Eagle Point Cliff, at a point above Indian Cañon, and at Washington Column, the sound rock comes down to the valley floor with almost no talus.

The south wall, on the contrary, has crumbled much more and is therefore far more diversified in form. The cliff of Glacier Point alone on that side is but little crumbled, and that because the morning sun shines full upon it from the Vernal Fall Cañon. No doubt all the cliffs mentioned are exceptionally hard rock and therefore very resistant, but the effect of the sun and shade cannot be doubted.

Application of these Facts in the Explanation of some Phenomena on the Eastern Slope. We have already drawn attention to the very asymmetric form of the Sierra. It is like a great wave ready to break, and, indeed, already broken on the eastern side. It rises from the San Joaquin plains by a gentle slope fifty to sixty miles long to reach a crest 13,000 to 14,000 feet high, then plunges down at high angle and reaches the plains 7,000 to 10,000 feet below in five to ten miles. This, as already seen, is the result of a great fault on the eastern side and a heaving of the whole mountain-block on that side, by which the crest was transferred to the extreme eastern margin.

Hence in glacial times long complex glaciers with many tributaries occupied the western slope, while short simple glaciers flowed in parallel streams down the steep

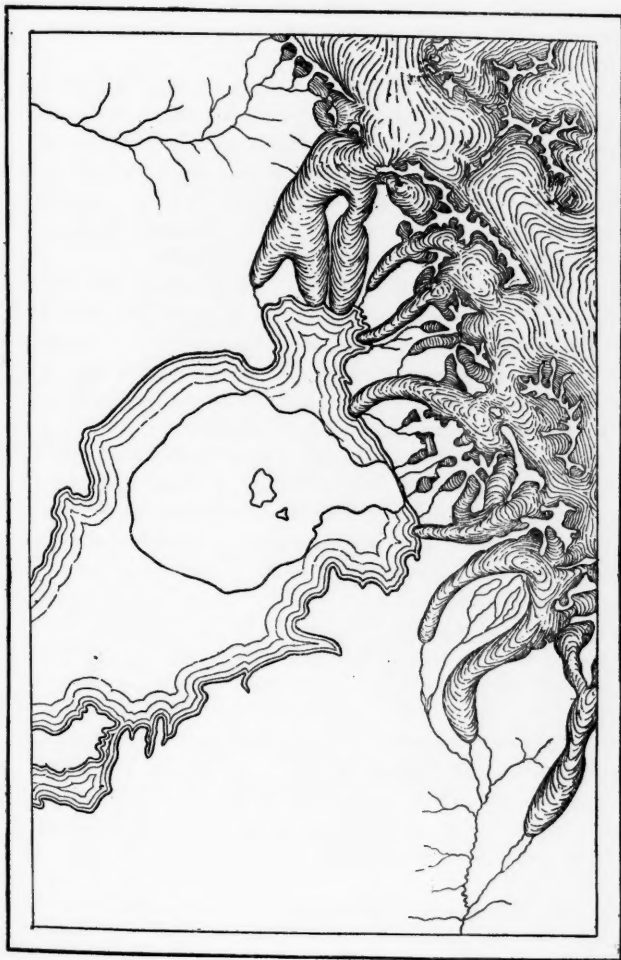


Fig. 13. A Map of Mono Region in Glacial Times.
The smaller outline shows the present lake with its two islands. From Russell.

face of the eastern slope and out upon level plains for several miles. On escaping from their deep rocky gorges they dropped their debris on each side, forming long lateral moraines between which they flowed. These moraines are from five hundred to a thousand feet high, and from five to seven miles long, and form very conspicuous scenic features in the region about Lake Mono, where about ten glacial pathways, each with its two moraines, may be counted. Fig. 13 is an ideal map of this region in glacial times. It is seen that many of these glaciers ran their snouts into the then swollen waters of Lake Mono.

Now, examination of these long double moraines stretched out like arms on the plains, shows that the glaciers which formed them were nearly all of them deflected to the left, *i.e.*, to the north. This northward deflection was not determined by greater slope in that direction, but evidently by some other cause. What is that cause?

McGee's Theory. McGee first drew attention to the fact of this deflection and offered the following ingenious explanation: Since the glaciers here all flowed toward the east, their south or right-hand sides received more sunshine than the north or left side (Fig. 14.).

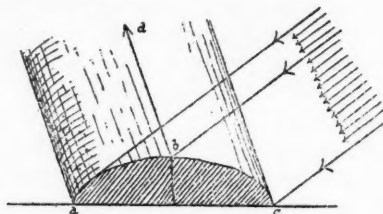


Fig. 14. Ideal Section and Perspective View of a Glacier moving Eastward, and sunshine falling on the south side.

If *a b c* represents a section of a glacier flowing in the direction of the arrow *c d*, then it is evident that much more sunshine (represented by little arrows) falls on the half *b c*, than on the half *a b*. Now it is well known that

the rate of motion of glaciers is increased by heat and melting. Therefore the right or south side would move faster than the north or left side and the glacier would deflect to the left or north.

It is possible that this may be a true cause, but it certainly is not the only, nor, I think, the chief cause; for if so the phenomenon would be universal. But inspection of the map shows that several are not thus deflected.

Russell's Theory. Russell observed that in all cases of deflection, the moraine on the right-hand side was the larger; otherwise there was no deflection at all. He therefore concluded that the more abundant moraine dropped on that side at the snout of the glacier *pushed* it little by little to the other side. In this I think he is right. But he assigns as the cause of the more abundant debris, *the greater number and size* of the tributary glaciers on that side. In this I think he is wrong. The fact is, that the glaciers were very simple and without conspicuous tributaries on either side. Indeed, Russell himself, in another place and in another connection, accounts for the absence of terminal moraines at the farthest limit of these glaciers by the absence of tributaries and therefore of medial moraines.

My own View. The reader has doubtless already anticipated my own modification of Russell's view, in accordance with my observations in Hetch Hetchy. The larger moraine on the right and consequent deflection to the left, is the necessary result of the shading and more abundant crumbling of the south or right wall of the deep and narrow east and west cañons from which they emerged. No contribution of debris by tributaries is at all necessary to the result.

THE RELATION OF THE UNIVERSITY TO SECONDARY SCHOOLS.*

By FREDERICK SLATE.

Some subjects offer a peculiar form of temptation, through the bare possibility of treating them within the narrow boundaries of an hour. The attempt is made to do this, and the consequent hurry defeats its own end.

The present topic avoids danger from that source by the very magnitude of it. The two latest stages in the organized process of training for the work of maturity are important in themselves, and in their connection, to the highest degree. The questions involved have a place in the thought of every nation that is to any extent a leader in education. These questions have been under serious discussion almost continuously during the second half of this century, at least. Therefore, even a skeleton resumé of this activity is out of the question. We can turn attention toward the region occupied by it; we can point out some lines of entry into that region; and the attitude of the University of California on a few general types of policy can be defined. But a well-regulated ambition will attempt no more than this.

For our present purpose it is not necessary to dwell upon the manifest diversity of the institutions going by the common name—University; nor to select one among them

*An address delivered at Berkeley, before the California Union, on November 10, 1898.

as a term for comparison. For the ends here in view, the word will be used definitely enough if made to include examples so unlike as the universities of Berlin, Oxford, Harvard, and California. They have this in common: that they are the institutions of higher learning, each for its own constituency.

In like manner, the Friedrich-Wilhelm Gymnasium in Berlin, Rugby School, an English board-school, the Boston Latin School, and the Santa Ana High School may occupy a large range up and down in the scale of excellence, and may otherwise differ in many features; but they are alike in the one essential respect for us. They represent the stage next below the highest in the educational plan of which they form a part.

In general, then, we shall use the terms University and Secondary School emptied of more particular content than this; with the qualification or proviso, however, that the secondary school of technical purpose shall be excluded from present consideration. We choose to be here concerned with secondary schools as part of a "liberal education" only.

The possibilities of our title may be still further usefully narrowed. The relation between University and Secondary School, spoken of in the singular, of course includes many phases of a complex relation.

The relation is, in some respects, speculative, intellectual, logical. The scheme of education is to be laid out, the lines of demarcation are to be drawn, the parts coördinated and balanced one against the other.

All this, however, we accept as done. The elements are—what we find them to be; and such contribution as may here be made to a view of the relation in question, will be on what may be called the practical side. What is the *situation*, if you please? What interaction is there between schools and universities, as educational forces at work in society? And perhaps even more specifically, since in our dynamics we are apt to regard one body as act-

ing and the other as acted upon (for the time being), how does the university act upon, influence, control, guide, and build up the secondary school?

Where any measurable influence does practically go out from the university and affect the schools next in order below, it bears fruit in encouraging and retaining the best grade of teachers, and in cultivating the best possibilities of their teaching. This service is the most effectual benefit to the schools that is due to the relation in which they may stand to the higher institution. To set this in a clear light, and to indicate some types of procedure in establishing effectively the standards for good teachers and good teaching; this sums up in advance the scope of my intention.

There is no doubt that this sort of bond does exist between the university and the schools in every leading country. The bond may be more or less directly incorporated into the administrative machinery, or may be even formally absent. But through one channel, at least, the universities are continually pouring into the secondary schools the material upon which the nutrition and growth of the latter depend. I mean through the teachers. Every person who has attended a university in the course of the preparation for teaching, carries into the schools a certain group of ideas, and becomes a secondary focus of them.

This has been selected for first mention, partly because it is universally operative, and partly again because the presence of university students in the teaching-force of secondary schools gives the necessary leverage to other tendencies and efforts, and becomes in this way vital, too, as well as universal.

The ideas consequent upon university training will be most important, in so far as they are held in common and represent the distinctive ideals for which all the universities stand; in so far as they kindle a liberal and disinterested aspiration in the young and set a stamp upon character as well as attainment.

Governmental control of the schools (where it exists), no matter how minutely prescriptive, cannot check or banish this influence; which is subtle and pervasive enough to elude verbal formulas. In the form of the teacher's atmosphere, the free spirit of the university reaches the schools and stimulates them. The schools will be most excellent, other factors being at all nearly equal, where the largest portion of this free spirit is effective. In other words, where the largest proportion of the teachers in secondary schools have had individual experience at the university of its methods, and carry on other persons to emulate them.

In France as well as Germany, in the smaller countries of Europe which follow their lead in educational matters, and in England, the university student is omnipresent on the staff of the secondary schools. We are glad to see this tide rising in America, and (closer to us) in California because of the desirable consequences that the fact carries with it. The percentage of university graduates among the high-school teachers in the State has been rapidly on the increase. It is with satisfaction that we note how high California stands among the States of the Union in this respect.

When the secondary school is thought of in its function of preparing for the university, the requirement is obvious that the teacher should himself be familiar with that for which he is preparing the student. The desirableness for the teacher of expert knowledge in his subjects, which can ordinarily be gained by university training only, is equally plain. And this second element affects every pupil of the school; not alone those who are preparing for the university. But we do not exhaust the advantages of this type of teacher, unless we take due account of the liberal temper and wider view which his own studies have afforded.

The Prussian Government organizes its Gymnasias for its own purposes of intelligent citizenship, and not solely with regard to the universities. It demands of its teachers the capacity to impart with thoroughness a certain stage of

liberal education; and requires them to qualify for that office by university study.

If we find in California (as we evidently do) a stimulus exercised locally by every university graduate, which shows in the form of increased attendance at universities, this is not because the high schools have been deflected into becoming preparatory schools for the University, to the detriment of their local function. Nor is it solely because the quality of the teaching is improved. This stimulus upon the pupils in its worthiest exhibition, is towards reaching a plane of liberal development by disinterested pursuits—and at the cost of sacrifice if necessary.

Where a central authority in educational matters exists, and an element is seen and admitted to promise unquestioned value for the schools of a given class, there is full warranty for a step which imposes the requirement that this element shall be introduced into those schools. It is not to be wondered at, then, that the countries of continental Europe, which are to the requisite degree centralized, demand the university training of all teachers in secondary schools under their administration.

There is no such authority in California. Nor have any of the needful preliminary steps been taken, to which the establishment of such a center would be the natural sequel. It is not even assured that a person or body clothed with such powers proves on the whole an unmixed benefit. I find the question still under discussion in England, and that solution hedged with many qualifications. There are voices raised against the drawback of officialism in the schools of Prussia, while the value of its intelligent and inflexible standards is freely recognized. But however that may be, if the process of infusing the university element into the high-schools of California has been encouraged and hastened, under the prevailing conditions (and this is the fact), credit is to be given the University for assuming a function not otherwise assigned, and for devising the means which could be used to the desired end.

The policy adopted has consisted in placing our own graduates in the field, with the best equipment for the work which the circumstances admitted, trusting to comparison and generous competition to effect the raising of the average towards the level thus marked.

The course of action followed coincides in its issue essentially with that attained by unfettered exercise of central power for the public good, as in Prussia or France. But if our institutions of higher learning could endorse with their united judgment a type of requirement for teachers in secondary schools, that judgment might come to have all the force of law, with more than a law's moral value. Whether by law or agreement, the requirement should, however, *de facto* exist, for the sake of results already recited.

In the light of such considerations, the movement on the part of our University towards improvement of the public standards for teachers in secondary schools in California, is explicable, even in its details. The present state of the requirement, as a basis for action in recommending University graduates for teachers' certificates, is found in the current REGISTER, on page 71. It may be taken as representing an approach towards the standards established by consensus of intelligent opinion in these departments, in the larger world.

The University is now represented upon the State Board of Education. That body exercises control over the extension of privileges to graduates of other universities, in the matter of acquiring the right to teach, without submitting to the local examinations. The State University is thus allowed to set the standard in these things; and, together with a certain amount of power, there is conferred by this arrangement a still more definite share of responsibility. Examination of details will show, as I think, that the responsibility has been squarely met; with enlightened interpretation of experience elsewhere. At this point, as at other vital points, the University has not allowed its policy

to be shaped by selfish view of the schools as feeders of its own classes.

It may be worth noticing, to conclude what is to be said under this heading, that the University standards for teachers in secondary schools are not exclusively enforced. The alternative procedure by local examination at the hands of County or City Boards is still open; and this does not involve the University tests—except the trying test of comparison.

So there is no question here of central authority. Only of a normal standard dictated by a consciousness of responsibility, and set up for imitation. Neither is there any dogmatic claim that the liberal point of view is conferred by university training alone. In one very true sense all education is self-education. Men may be self-educated as they are self-governed. But in the majority of cases the organized processes of education, as of government, will be the easier as well as the surer road.

If, in prosecuting its plans, the University has seemed to act with severity towards its own graduates, this course has been dictated by a far-sighted wisdom, which has held steadily in view its own credit; and their ultimate benefit by association with its own high reputation.

The standard here in recommending them for certificates has been gradually but consistently raised. Certificate used to follow diploma, unless the student had been disciplined or was evidently disqualified; the certificate was general, and did not specify subjects; there was no requirement that the student should have made any particular preparation for teaching.

There is progress to register on all these scores. The "Teacher's Certificate Committee" has now no sinecure. Applications are carefully sifted, and a considerable percentage are thrown out on the ground of defective scholarship, for example. A recommendation, when granted, bears upon its face the subjects, usually not more than three (and those closely related), in which the student's

preparation is pronounced adequate for teaching. And there is enforced a provision that the student should have occupied himself with thought for the methods and resources of his profession.

The University has further protected itself, and therefore finally the graduates of best quality, by systematizing the work of endorsing candidates for positions. Their own excellence of performance under trial is now made to enter as an important element. And no doubt there will be built up gradually a process of real promotion towards the places of greater responsibility in the larger schools or cities, for those among our graduates who distinguish themselves in the educational field.

Getting a larger proportion of efficient teachers into the schools provides material to work upon and work with, when other improvements are initiated, which affect the quality of the teaching and the arrangement of courses of study.

We may look with longing eyes again towards Prussia, coveting the advantages in this respect which are there without doubt manifest. Or we may console ourselves by observing that our way to change and reform is less obstructed than in England, by the entanglements of inherited tradition. Though we do either, or both, however, the defects of organization and method confront us, and must be eliminated. Our predecessors or companions in the work can be helpful only in suggesting models to work towards.

The prevailing and prominent vice of the high-school curriculum in this country, no longer than fifteen years ago, was its fragmentary, desultory, scattering character. Courses of this sort were frequently met in California when the University began to develop activity in counseling the schools. Marvels have been worked in clearing the ground of one-term courses on fifteen or twenty subjects, jumbled together under the caption, Curriculum. They have melted away before the influence of a saner view concerning the results to be expected from a high-school. The University

has reflected the light of the great movement towards concentration and thoroughness into the remotest high-schools of California, and made them early partakers in the benefits of a more modern conception of their task.

In accomplishing the necessary change of base, the precaution had to be observed of preserving connection with the schools meanwhile; and moving only so far in the lead as was consistent with maintaining the touch that guided effort. Inasmuch as an encouraging chance for their graduates to enter the University was the leverage for acting upon the schools, the matriculation-requirements could be only gradually modified. It will be instructive for a younger generation to recognize the deliberate, persistent effort behind the changes recorded in our REGISTER from year to year. A gradual lifting, without hurry or pause, of a small provincial institution into the small group that lead; this has been accomplished.

In curious parallel with the law which gave the University weight by its representatives upon the State Board of Education, is that other piece of legislation, which is still strongly operative to check the vagaries of local boards. I mean the law which says in effect: "Every high-school must adjust its work so as to include all the subjects required for entrance to at least one college at Berkeley."

It is gratifying to reflect that here, too, the University had a keener sense for the responsibility than for exploiting the power. The responsibility in the present instance is conceived as that of keeping the matriculation within the reasonable limits determined by the conditions of the good average school.

We may, indeed, say, without giving it the flavor of a public boast, that the spirit of reasonableness, view of both sides in every important question related to the schools, and unquestioned impartiality, dominate the University record thus far. And it is a fair inference that the concessions of the two laws above referred to bestowed no right upon the University that was not already in its

control by exercising it for the public good. The laws were recognitions rather than concessions.

In these general ways, then, the University of California has worked towards the introduction of good teachers into the secondary schools, and the creation of conditions under which good results could be obtained, so far as the general scheme of study, which we call the curriculum, is concerned. I hope that it has been sufficiently emphasized that these efforts have been put forth for the advancement of the schools primarily, and of the University by reaction only. In other words, this is one return which the University has been able to make to the communities scattered up and down the State which have taxed themselves liberally for its support.

There has been a strong feeling among us, which has found vent in this field, that an obligation of this kind rests peculiarly upon a State University. A private institution is fully at liberty to select its own domain and cultivate it. There is freedom to discriminate, and develop one function rather than others, among several which fall to the share of the ideal university in its completeness. Clark University makes no pretense of caring for the undergraduate; at Baltimore, too, there has been a similar tendency, though less pronounced. But should the Johns Hopkins University become the State University of Maryland, it will, according to the view here presented, appropriately widen its field of operations by inclusion of what may be called pedagogic care for the schools around it.

There remains now to be referred to and briefly treated, the procedure of which we find examples in actual cases, by which the standards for secondary education are promulgated or enforced. Secondary schools are very commonly brought under public scrutiny through their results. Of course, there is, in the first place, a diffused public opinion, based on the general efficiency of school-graduates in the vocations of life. This is a legitimate basis for judgment, if used fairly; the avowed object of secondary schools being

what it is. No type of school could, in the long run, maintain its curriculum and its methods in the face of results proved defective on these general grounds, and the public outcry consequent thereupon. Almost every country has marks to show of popular pressure thus brought to bear, with issue in a Commission of Inquiry, or equivalent investigating and revising body. If we find ourselves free from these more violent symptoms, it is mainly because the schools have been, perhaps, even too ready to trim sails to popular breezes, and even fickle airs.

However, the scrutiny that is really before our thought involves a more direct and searching test, applied by persons of presumed competence for their office. Its peculiar and essential feature, in connection with our present inquiry, is that through it, directly or indirectly, a definite relation between school and university is established. We are locally familiar with one particular scheme of this sort, in our own system of accrediting. It will be a definite point gained if we become able to orient this plan with reference to others like it; especially if the reasons can be incidentally laid bare which determined the choice and rejection that have been exercised among the practical possibilities as realized elsewhere.

The situation that led to accrediting is reproduced, in all essential respects, in England and Germany, to mention no other instances. It is instructive to recognize that neither our problem nor our solution of it is unique. Lessons are spread broadcast by which we may profit. It will do us no harm to see that our procedure is not brand-new and novel, but a composite imitation of good models. We are not launched upon an unsounded sea, nor pioneering in *terra incognita*.

I understand it to be one mark of a progressive spirit, that it will, by comparative study of important questions, avoid mistaking the reëntrant circle of an eddy for the flow of the main stream. It is certainly with the intention at least of promoting this laudable spirit, and of discouraging

a provinciality which accepts its own standards uncritically, that this contribution to the discussion has been shaped throughout. It is proposed, then, to give the briefest account of the relation at present existing, of a nature parallel to accrediting, between university and secondary school, in England and in Prussia.

It is not to be inferred that the choice is restricted to these two instances. On the contrary, the list might easily be swelled to include half-a-dozen countries of Europe. But the two mentioned are representative, and of different type. It may be well to say that Prussia sets the key for Germany, and leads. With minor qualifications, what is true for Prussia, so far as our purpose extends, is true for the Empire also. In it we are dealing with rigorous governmental prescription and control; and a system whose main lines were laid down in the early period of the modern educational movement. To set over against this, we have in England a comparatively late development of secondary education to any adequate extent, with a period of adjustment and fruitful discussion extending well down to the present date. There is further contrast between England and Prussia. In the latter country the government interposes directly and solely, exercising a firm authority over both schools and universities, and bringing them *ab extra* into adjustment. In the former case, the two chief universities, Oxford and Cambridge, are active in a quasi-public character; the schools enter upon the relation voluntarily, and the government stands sponsor to the arrangement with its sanction.

In Prussia all schools of certain types are accredited to (rather than by) the universities. There is discrimination against one or more of these types, to the extent that students coming from them are excluded from matriculation in some of the faculties. It seems clear, from the accounts given, that the accrediting does not extend to all the class of a given year, but must be obtained by special excellence of record.

The government control exhibits the following salient features: The course of study must be submitted by the principal of the school for approval. He may evidently exercise discretion within certain (probably narrow) limits. Changes in the course of study are contemplated; for it must be resubmitted at intervals of three years. There are unannounced visits by inspectors, who quiz the classes and notice the work in detail. The recommending of students for accrediting involves passing a final examination. This is conducted in the main by the officers of the school; but the government inspector is present, and takes his share in the oral part of the examination, which is usually included.

Many strong elements of parallelism may be detected between this and our own accrediting. It can of course be urged with truth that we offer but the shadow of the Prussian substance, in respect of attainment for our high-school graduation, and the close minuteness of supervision which prevails under their inspectors. But we agree with them in entrusting to the school, through its officers, the execution of its announced plan for work; and we agree with Matthew Arnold and them, in laying the weight of our emphasis upon the continuous training of good instruction, rather than upon the results of spasmodic strain in examination.

The necessary inclusion of a government representative in the final examination, and the importance attached to this examination, which is a gateway opening into privilege for Prussian youth, might seem to contradict this position. I think closer scrutiny makes the apparent contradiction disappear.

First, entry upon the final examination is allowed to those students only whose record in detail justifies that permission. The close daily average it is, then, which is the *sine qua non*.

Secondly, I interpret the presence of the inspector, not as implying possible unfairness, but as part of the Prussian

striving after uniformity. He is there to correct the divergence of judgment in individuals, which exists though they are working under the same printed instructions. I discover that the teachers of the school make the lists of examination questions (from which the inspector selects) several weeks before the time of the examination. But, my authority goes on to say, though the boys could be coached on these predetermined lines, "A strict code of professional honor condemns and prevents any such unfair presentation. It is said that a teacher would rather commit suicide than thus cram up boys beforehand to pass on the questions set by himself." Where such a high-strung spirit as this prevails, the real ground for the arrangement in question must be sought elsewhere than in distrust of the teacher's impartiality or honesty.

I draw the conclusion, therefore, that we have a good Prussian model for our plan of coöperation of school with University in the recommendation of pupils. The University passes judgment upon the workings of the school, the principal enforces the standards as regards the pupils.

I rely upon this lesson as the excuse for an apparent digression. For there is no appearance of the university in the Prussian scheme. But there is instruction and suggestion here, nevertheless, if we consider the State University substituted, as is natural to do under the conditions here obtaining, for the government.

A few lines above I alluded to a dictum of Matthew Arnold, in which he speaks as an English school-inspector of long and varied experience. I should like to quote it. He says: "The end to have in view (in education) is that every one who presents himself . . . shall have received for a certain length of time the best preliminary instruction. This is not an absolute security, but it is the best security. It is a thousand times better than the mere examination test."

He speaks with sad knowledge of the English habit, which lays the heavy stress upon examination, usually of

the competitive type. I feel we can take little else than warning from the actual scheme of local examinations and joint-board examinations, by means of which the great English universities give and withhold reputation. The changes are rung upon examining whole schools, whole classes in schools, selected candidates in special subjects. It is a system of examination, as opposed to inspection. And its results are raising question in thoughtful minds.

Our English brethren, however, have the parliamentary habit of discussion and conference. And we may fortify ourselves in another aspect of our coöperative activity, by observing how they go to work to sift out the truth from the mass of their accumulated experience by giving representation in such matters to all who are qualified to speak. In the voluntary relation between school and University, brought about by natural features in the situation only, as well as in the delegation to the University of the function which is elsewhere reserved to the government, the English pattern has been followed.

When they were taken in hand by the University, the Californian high-schools were few in number, and sadly in need of counsel. It happened, very fortunately, as I think, that they were not confused by a multitude of voices giving counsel at once. The circumstances at Berkeley were such that one department after another gathered headway and strength here, and each in turn was able to occupy the field of work that the schools offered. Thus the pressure of reform was brought upon the different branches in the schools seriatim. The movement in English was begun vigorously by Professor Cook (now at Yale). Professor Stringham has been able to direct the work in mathematics continuously since he first took the matter in hand. We have cause to be very well satisfied with the effects of University supervision over these two departments in the schools. The results are of such excellence that our State has earned a reputation by them in circles where such efforts meet reward. Other departments have since then

made their own beginnings, with reasonable progress to report.

The inspection of schools by persons, each an expert in some of the subjects taught, is the salt of our plan of accrediting. If university supervision of schools by inspection is looked upon askance in other States, and viewed with suspicion as being ineffective, it is because of a looseness in the procedure, which does not enter where each judgment uttered is by a man who knows.

Many of the American universities have adopted what is practically the English system of local examinations. The reasons for avoiding such a plan are, to some of us at least, clear to demonstration, if the object be the welfare of the schools as such. I hope to have indicated the thoughts that lead to that conclusion.

No doubt the University examiners were in the beginning amateurish and inexperienced. But the good-will they showed carried them with success through the early period. At the present stage of development, we stand face to face with the need of meeting the problem of accrediting seriously. The University must lead. A capable official may be stiff and inflexible; but an incapable official is ridiculous or contemptible. In proportion as schools grow strong, and have years of tradition behind them, the principal becomes master in his own field; the University has less to teach him; and more to learn from him. Hence the insistence upon the English idea, that examiners who set questions, not to speak of inspectors, must be persons of experience in school-work, knowing the possibilities of school-children and school-subjects.

Again, there can be no permanent future for accrediting, unless it reserves the individuality of the teacher, and remains pliable enough to take account of diversity in method. It is sometimes made a reproach of Prussian school-inspection, that it shows the inherent weakness of "officialism" in discouraging experimental variations from the statutory scheme. It is alleged that it is in fact difficult

for a Prussian school to find out whether a proposed new idea is good; because the government discountenances and prohibits it until it is proved good. We have no place for a degenerate officialism in California. The play of life in the schools must be prized as the apple of our eye; and the personality of the teacher must be respected in every proper way.

Nor can we afford to give up our wise plan of conferences. It is part of the wisdom of our English cousins. And this form of coöperation, wisely laid as a foundation, will be more needed now even, in the period of strong, well-conducted secondary schools in California, than it was when they were so weak that any arm was strong enough to lean upon.

ELEMENTARY STUDIES IN LITERATURE FOR ADULT CLASSES.

By CORNELIUS BEACH BRADLEY.

I.—HOW POETRY DEALS WITH HUMBLE LIFE.*

In the following course of study it is proposed to subject each one of a group of related poems to the same analysis, with a view to bringing out the essential characteristics of each poem, and finally the characteristics of the entire group. The analysis is indicated in a series of questions, which are to be carefully worked out in each case after a thorough study of the poem as a whole. In order to set forth more clearly the precise import of the analysis, and the general nature of its results, the questions have first of all been applied to a poem not included in the group selected for this special study. Since the purpose here is merely to exemplify a method, no attempt has been made to present a complete analysis of that poem, nor indeed to do anything more than to suggest in skeleton-form how some of the questions may be answered.

LESSON I. PRELIMINARY. THE METHOD OF STUDY.—The Rime of the Ancient Mariner is first to be thoroughly studied so as to secure mastery of its expression and a clear idea of its content and general features. The following questions are then to be applied to the poem, and the suggested answers are to be carefully tested by the student,

* Division II, HOW POETRY DEALS WITH NATURE, and Division III, HOW POETRY DEALS WITH THE DEEPER QUESTIONS OF LIFE, may be expected to follow later.

even to the extent of supplementing or amending them if necessary.

1. What is the rôle or character in which the poet himself appears, or what is his point of view in the presentation? How nearly does this represent his actual relation to the things of which he writes? If it be not his actual relation, but one artfully assumed, what special purpose or end seems to be subserved thereby?

In the *Ancient Mariner* the poet assumes two characters. In the one, he describes as an on-looker what he hears and sees at the door of the banquet-hall. In the other, he identifies himself with the mariner and tells his story. Neither rôle, of course, represents any actual participation in the events narrated. The first device furnishes an occasion—a frame or setting—for a story which would otherwise be left suspended in air; and, by contrast, throws up the features of that story in stronger relief. The second device makes possible a much more direct and realistic presentation of the weird experiences.

2. What are the particular phases or aspects of life upon which the poet here fixes his attention? What principle of order determines the sequence of images and scenes throughout the poem? What is the *essential* structure of the poem? What are its main divisions, and the material used in each? How are these divisions related to each other in thought and in form? Has the poem *formal* divisions as well? How are these indicated? Do they coincide with the structural divisions?

The aspects of life as presented in the *Ancient Mariner* are two-fold: (*a*) the outward experiences of a sailor's life on a long, adventurous voyage; and (*b*) the inward experiences through which a soul is purged at last of its native indifference and heartlessness toward the beauty and the life of God's creation. The sequence of details in the poem follows strictly the supposed sequence of events—the order, that is, is chronological throughout—both in the enveloping

story of the wedding-feast and in the mariner's tale. The essential structure of the tale itself may be suggested by saying that the inward experiences are projected upon the outward experiences as upon a screen. The manner in which the tale and the story of the wedding-feast are wrought together has been suggested under (1) above. It is further to be noted that the frame or setting is most fully developed at the opening of the poem, where for a time we pass freely from setting to tale, and from tale to setting again, as at lines 10, 11, 21, 31, 40, 41. An occasional interruption by the wedding-guest (ll. 79, 224, 345) serves to keep the setting in mind,—as well as to give a striking emphasis to certain crises of the experience,—until at last the tale, when completed, melts away into the occasion again (ll. 582-596). There is then a distinct appeal to the wedding-guest (ll. 597-617), the poet takes up his earlier rôle of on-looker (l. 618), and the company is dismissed. Formally, the poem is divided into seven numbered Parts, and these again into irregular rhyming stanzas. The main divisions mark important stages in the main narrative, but have no relation to the enveloping story.

3. Is there a dominant mood of feeling running through the poem? Is it single, or do other moods appear? If there are others, do they reinforce and sustain the main mood, or do they come in at hap-hazard? Does the poet succeed in making the reader share his moods? Analyze some striking examples to discover, if you can, the means by which he accomplishes this.

Most pervasive of all is the fascination of the weird and the supernatural. This spell is seen at the very beginning (ll. 3, 13-20, 38-40, 79-80) in its reflection from the wedding-guest. As the tale proceeds, the reader is brought directly under its power. It comes to its climax in the sinking of the ship, after which it is shown again in reflection from others—the hermit (ll. 562, 563, 573), the pilot boy (l. 565)—and lastly in the effects of the remembered

experience upon the mariner himself (ll. 578-590).—A safe and natural descent is thus secured from the excitement of the climax. In marked contrast with this master-mood is the suggested merriment of the wedding occasion, and the free, natural excitements of the outward voyage. In subtle, changing harmony with it are the various moods developed under the supernatural discipline, from callousness and wantonness at the beginning, through fear, horror, shame, and the promptings of a better nature, to the peace of love at last—a peace shaken at times, however, by waves of recollection of what had been. The means by which, on the large scale, a mood may be communicated to the reader, have already been seen in the account given above of the development of the master-mood of the poem.—An example for more detailed analysis may be found in such a passage as that which makes one feel the heart-sick horror of being becalmed in the tropics (ll. 107-138).—We find here a series of images of external things carefully selected to furnish the basis of that feeling:—the breathless calm, the idle sails, the silence, the copper sky, the broiling sun, the motionless ship—this last emphasized by a striking comparison, because it cuts off all hope of change. Associated with these is a series of images directly suggesting inward states:—drooping spirits showing themselves in an aversion to talk, the hopeless monotony of waiting “day after day—day after day,” helplessness—“As idle as a painted ship upon a painted ocean.” Then comes the crowning horror of thirst, at first with Tantalus-like torment in the midst of suggested but impossible gratification; the stagnant and festering sea with its loathsome life; fearful portents and delirious dreams; the waking agony of the last stages of thirst. All these images, it should be further remarked, are subtly supported and enforced by the choice of words and the movement of the verse.

4. By what means has the poet contrived in this case to invest the commonplace with interest and charm? Has the

poet here any further purpose than that of giving us a vivid picture of that which has interested him? How can you be sure on this point?

The first query is scarcely applicable to the *Ancient Mariner* as a whole, but if we limit its scope here to the ordinary sailor's life, we shall see that it is made interesting and impressive, first, by selection of those elements only which distinctly appeal to interest and feeling:—the parting from home, the unfamiliar phenomena of the tropics (ll. 29, 30), the excitement of the storm, the danger of the ice-floes, the ocean birds, the calm, the sighting of a ship, and so on; and, second, by showing us all these things as working together to an end of transcendent importance, the discipline and succor of a human soul. There is, moreover, in the poem a distinct attempt to sum up the true import of a discipline like that of the mariner; and of this we may be sure not only because of the detached form and the universal terms in which the moral is stated (ll. 610–617), but also from the varied sorts of emphasis with which it is invested.

LESSON II. STUDY OF *EVANGELINE*.—The poem is first of all to be thoroughly mastered in its expression, content, and general features. The questions given above are then to be applied to the poem and carefully worked out in detail according to the method already indicated. The answers in every case should be as definite as possible, and should be written down in well-considered terms, to be made the basis of comparison of views and discussion when the class meets.

LESSONS III, IV, and V are similar studies of *Snow-Bound*, *The Deserted Village*, *The Cotter's Saturday Night* and *Gray's Elegy*.

LESSON VI. Put the five poems studied into relation with each other, making the results already reached the basis of comparison and contrast between them, leading up to a characterization of them all as members of a related

group of poems. Add to these—with fitting characterization—whatever other poems you recognize as clearly belonging to this group; and with these associate examples of the treatment of humble life in widely different vein, or even in the realm of another form of art; as, for example, in prose, or in pictures.

THE PRINCIPLE OF INTERVENTION.*

By L. T. HENGSTLER.

There is a sphere of action surrounding every individual, within which he may move freely, hampered only by his own shortcomings, unhampered by other individuals or by the community. Within this sphere he is his own sovereign. Thus he may lay out his intellectual life as he pleases, and may arrange his relations to his God according to his own plan. Other individuals are forbidden from trespassing upon his will within this domain; they may mould his actions by the persuasive force of their example, but they may not forcibly erase his will and substitute their own for it. The individuals composing the international community are the civilized sovereign states. Each one of these also has a sphere of action exclusively its own, both with regard to its inner life and the actions directed against the world about it. International Law recognizes this fact by endowing the states which are members of international society with the attribute of sovereignty or independence. Sovereignty is the right of a state to manage all its affairs, internal and external, without interference from other states. It is the right of free development. It is to the state what the right of individual freedom is to the citizen, except only that the citizen's freedom is protected by the organized power of the state, while the state's sovereignty is supported and protected by a power but

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loosely organized, the power of universal public opinion. The right of independence is conceded by international law to all the states which are full members of the society of nations; hence it follows that the freedom of development of any one state must not be understood to mean absolute freedom to develop according to its exclusive pleasure, but freedom tempered and qualified by the equal freedom of all others; in other words, freedom within the law of nations. These two elements, then, compose the principle of the international sovereignty of a state: First, the right of developing with national freedom; second, the duty of recognizing and respecting the equal right of other states. This duty of recognizing the sovereignty of other states leads at once to the further duty, to abstain from interfering with the affairs of other states. Any interference compelling a state to do something which, if left to itself, it would not do, is called an intervention; and if there were such a thing as an absolute principle, the question of intervention would be settled by logical deduction from the attribute of sovereignty of a state by the international commandment, "Thou shalt not intervene."

The practical lives of men are not simply to be reasoned out from premises, however, nor is the intercourse of nations to be constructed like a problem in mathematics. The commandment, Thou shalt not kill, is interpreted, both by law and morality, to imply the other commandment, Under certain circumstances, thou *shalt* kill! No one denies that in most cases the first rule should be applied; but I believe that no one would deny that in some cases the application of the second is a necessity. Killing, in extraordinary cases, is necessary to prevent killing. The state kills for that purpose. Again, an individual may be forced to kill to save his own or other human lives. Law and morality alike condemn the act, generally: law and morality alike may approve it, specifically. When one human being is killed by another, intentionally, and no further facts appear, the act is murder, a criminal offence;

and it stands so until the person committing the act proves justification, such as self-defence. To such an extent is the act, in ordinary cases, disapproved by society, organized and unorganized, that the doer of it is saddled with the burden to show that the extraordinary circumstances exist which excuse him in the eyes of man. At first sight the act is a crime.

Thus it is with intervention. At first blush it is an international offence against the state interfered with, a violation of its rights of sovereignty. In the absence of facts which will justify it, it is a crime in international law. If a nation which has committed the acts constituting an interference with the sovereign rights of another nation wishes to be relieved from the imputation of having committed a crime, the burden of proof lies upon it to show that there was legal justification. Such a state is summoned before the bar of international justice and put upon its defence.

Intervention being primarily a violation by one state of the right of personal freedom of another state, its nature can be best understood if we first know what is meant by the right of freedom of states. It is evident that a state may not do what it pleases; for otherwise state A might please to swallow up state B, which would seriously interfere with the latter's right of sovereignty. Such a system would lead to one-sided freedom of action: A's freedom would exclude B's freedom; for it is difficult to conceive that they could swallow one another. The freedom of action of a state is thus limited by the equal freedom of action of every other sovereign state. The relation may be illustrated in a homely way by a group of passengers in a street-car. If there is just seating capacity for all, and one worshipper of comfort at all hazards takes a corner seat and insists on reclining cozily and stretching his limbs on the seat, the liberty which he takes deprives the others of similar liberty, and some even of an opportunity to sit down at all. The principle of equality has provided certain

laws for the purpose of safe-guarding certain comforts to all the passengers, called laws of politeness. Under their influence the sprawler curtails his freedom, the fat passenger shrinks into minimum dimensions, elbows refrain from sticking out, and the whole company presents to the onlooker an appearance of upright primness. Similarly the company of states is reduced to an orderly and decorous array of dignified persons, under the influence of a law somewhat more binding than mere laws of politeness: the law of nations. Among the states it would not be difficult to discover your inconsiderate sprawler, your lackadaisical loungeur, your ponderous fat person, your little man who puffs himself and tries to take more space than nature entitles him to occupy; but law, with the whip of equality, squeezes them all into their proper dimensions. Each state is allowed a certain sphere of action, within which it may comport itself as it pleases. The pressure of the law confines the activity of a state within a prescribed domain. We may represent the domain of legal activity of a state by the area of a circle. Any act which carries a state outside of the circle is illegal as encroaching upon the rights of other states, and any act which a state may undertake with the sanction of international law may be marked by points inside the circle. Among the latter acts we may again distinguish two kinds: (*i.*) Those which the present morality of enlightened states approves without a doubt. The domain of these acts may be indicated by the area of a smaller concentric circle drawn within the first. This leaves a strip between the circumferences of the two circles which marks (*ii.*) Those acts which are permitted by international law, but which, nevertheless, are not approved by the moral sense of the civilized states. In every community there are to be found individuals whose lives are floundering about in the region between the moral law and the criminal law, clever rogues who just manage to keep out of jail; in the community of states, likewise, there are members indulging in practices which are shocking to the sensibilities

of the most refined members of the society, but for which international law has provided no punishment. Thus the legal system of a state may have room for polygamy, slavery, or slave trade; and other states have no right to interfere. The methods of criminal procedure in vogue in France, as illustrated in the Dreyfus case, are exceedingly distasteful to the Anglo-Saxon; yet international law would stamp any nation a criminal which should undertake to meddle with such domestic affairs. Again, political oppression of the subjects of a state by its own government may take such forms as to make other states quiver with indignant sympathy; yet international law forbids any other state or combination of states from interfering. As civilization progresses, the outer circle tends to approach and to coincide with the inner circle, the strip between the two, the region of immoral legality, becomes narrower. For instance, the practice of trading in human beings has been in recent times so discouraged by the concerted action of the leading nations that a strip about the circumference of the outer circle, denoting acts of slave trade, may now be said to be lopped off the domain of legal acts of a nation.

Let us suppose, now, that a state commits an act which lies outside the region of acts permitted by international law, what happens? There is no tangible authority set above the nations, no one nation acting as judge over the acts of the others, no international police to restrain and punish the national offender. The public opinion of civilized nations is the only authority to which states consent to submit. But this authority is a mere moral force; it has no arms with which to arrest or punish. Moral forces have the strongest preventive influence, but they are powerless to redress injuries already committed. The only agency which could punish an offending state is the physical power of another state or of a combination of states. Which one of the states is to administer the punishment? None of them considers itself as an international censor, sheriff, or executioner; none of them could be

required to expend the energy and loss of life involved in the execution or other punishment of a criminal state; and even a combination of states would hesitate to take in war an indefinite number of human lives composing the state which, as a state, had violated a principle of the law of nations. Punishment is, therefore, left to the state which is injured by the illegal act of another state; from which it follows that illegal acts are only those which produce injury to another state, which interfere with the latter's rights. In other words, a state act is illegal when it violates the legal rights of other states, when it constitutes an intervention in the region of legitimate acts of the latter. "Intervention" and "Acts illegal by the law of nations" are convertible terms. To refer again, by way of illustration, to our imaginary diagram, a state doing an act outside of the area marked by the outer circle commits an intervention in the territory of acts reserved legally for other states. The region outside of the circle is, from the standpoint of other nations, the domain of legitimate acts of theirs; from the standpoint of the state contemplated, it is the domain of acts of transgression. Every such act constitutes an intervention.

Assuming that a particular state infringes upon the domain of rights of another state, what is the punishment? Or, if one state threatens to make assaults upon another, what is the preventive remedy open to the state attacked? In the absence of international police, the state offended must provide its own redress. In a normal case it may demand reparation for past misdeeds, and even security against a repetition of the offence. In pressing cases the routine methods would, however, afford as little real protection as the consciousness of one person rudely assailed by another that, after he has been duly whipped, he can go to law and get damages. In such cases a state may properly take its defence into its own hands; its only protection may be to invade the territory of the threatening state and exterminate the danger to its safety by its own

physical force. This may be illustrated by an incident which happened during a rebellion in Canada in 1838. This rebellion was countenanced and supported by the efforts of many individual American citizens living near the frontier. A band of insurgents collected on American territory, seized an island at Niagara, and fired into Canada, in the presence of an American regiment of militia which was looking on without attempting to check the operations. The insurgents were making preparations to cross into the British territory in a steamer called the *Caroline*, when a British force invaded the American territory by boarding the *Caroline*. They seized the steamer, sent her adrift, and shot her down the falls of Niagara. The United States complained of the violation of territory, and called on England "to show a necessity of self-defence, instant, overwhelming, leaving no choice of means and no moment for deliberation." Thus the United States recognized, in this case, necessity of self-defence as a justification for acts otherwise clearly illegal. The invasion of its territory by the British troops, unexplained, was an international offence in the nature of an intervention in affairs within its exclusive jurisdiction; but it was admitted that the self-preservation of the offending state deprived the act of its offensive character. Cases of this nature, of which history presents many instances, give the clew to a correct determination of the question, under what circumstances intervention is justified. It is evidently the only means by which a state can be punished for its transgressions, and often the only means by which the assaulted state can enforce its right of free development. If intervention is undertaken not for the purpose of destroying the sovereignty of the state interfered with, but for the purpose of saving and upholding the sovereignty of the intervening state, if its object is to preserve the equality of rights, it is not merely legal but may be a necessity. If one state attacks another, or threatens an attack, or makes preparations evidently foreboding danger, the natural instinct of

self-preservation will dictate that the threatened state use the only means which may ward off the danger and save its own life: the means of intervention. The illegal intervention of another state is a calamity which may be curable only on the homeopathic plan, by swifter intervention.

These principles become more clearly defined if we discuss them with reference to specific rights of states included in the aggregate of rights implied in the word sovereignty. One of the fundamental rights of every state is to provide its own form of government and make its own laws. These laws may be immoral, according to the general opinion of other states; but international law would not countenance an intervention on account of moral disapproval any more than the municipal law of a civilized state would tolerate the attempted forcible conversion of one man to the moral views of another. The government and laws of a state may, however, be conceived as being so totally perverse that other states would be justified in interfering with its home management. If a political community should arrange its life on an avowed plan of anarchy; if internal disturbances and civil war became its normal condition; if the peace of a neighboring state were seriously and continuously disturbed by the internal troubles, a point might be reached when the freedom of development of the neighboring state is so hampered by the license and lawlessness of the offender that intervention would be proper. The moral or political development of a state cannot be free in the sense of being shaped in accordance with its own ideas, if a wicked next-door neighbor extols what it condemns, encourages what it suppresses, cherishes what it punishes. But the right of self-preservation in such a case, and the consequent right of intervention, are founded not on the wicked conduct of the disorderly state, but upon the danger to the intervening state. Intervention would not be justified on the ground merely that the state undertaking it feared the contagiousness of principles foreign to it. History shows an abundance of examples of interventions undertaken because

monarchies feared the spread of liberal or revolutionary ideas, examples which could not be successfully justified. When the Holy Alliance—a sort of partnership formed for the mutual insurance of established governments—sent its agent France into Spain to subdue a popular insurrection there, Mr. Canning, in 1823, on behalf of England, protested against the intervention in words which state the true limits of the doctrine of intervention. "No proof," he said, "was produced to His Majesty's plenipotentiary of the existence of any design on the part of the Spanish government to invade the territory of France, of any attempt to introduce disaffection among her soldiery, or of any project to undermine her political institutions, and so long as the struggles and disturbances of Spain should be confined within the circle of her own territory, they could not be admitted by the British government to afford any plea for foreign interference." In other words, Canning defends the principle that an intervention as actually undertaken was principally directed against the sovereignty of the state invaded, and hence, illegal; that the particular intervention would be legal only if necessary for the purpose of upholding the sovereignty of France.

Besides the right of exclusive management of internal affairs, every state has a right to increase its population, wealth, and territory; to extend its power and influence; to better its commerce and industry. This right is again relative and confined within limits by the fact that every other state has the same right. It does not imply that a state may help itself to another state's wealth or lands; the right stops and comes to an end where the sovereign rights of other states begin. Should a powerful state start on a career of conquest, the states threatened would have a right to intervene for the purpose of preventing an onslaught on their rights. The mere growth of a powerful state implies, of course, the possibility of danger to other states; every new acquisition of territory signifies increased power of the state expanding, and therefore decreased comparative power

of other states. But the fear of danger to others which may be the possible result of ascendancy of a powerful state is no ground for the intervention of others who may become nervous or jealous at its growing power: otherwise the European states might intervene in the affairs of the United States at the present time and tell us that we have grown enough and must now stop. To justify intervention there must be a misuse of the power acquired, an attack or threat of attack on other states. The expansion of the one state must be a virtual intervention in the rightful affairs of others, so that intervention may have to be resorted to as a cure against intervention. Only in that case is it justified.

There are two phenomena in modern international life which qualify the strictness of the principle just mentioned: the first is the doctrine of the Balance of Power in Europe; the second, the qualified protectorate of the western hemisphere by the United States. The European powers have surveyed the map of their continent and agreed upon a partition of territory which is supposed to create a nice balance of the states concerned. Any disturbance of the present distribution would be considered a tipping of the sacred scales and a menace to the safety of the states. If the Sultan of Turkey, under the inspiration of convivial spirits kindled by Emperor William's recent visit, had presented him a slice of his territory, the other European powers would have promptly discouraged such liberality by either demanding slices of proportionate size or requiring the Emperor to return the gift. The great powers of Europe have a standing agreement for concerted intervention in any case when one of their number threatens to become unduly fat and prosperous. It is this glorious diplomatic invention of the "balance" which makes a European residence on the part of the Turk a possibility. The situation is that of a flock of geese standing about a bad apple, each one eager to enrich his constitution with the juice of its substance; but the equal greed of all and the fear of the intervention of the others creates a nice balance,

preventing any one goose from enjoying it, and thus affording it a chance to rot in peace. In the New World we have no balance of power; here one power overshadows the others to such an extent that its supremacy is recognized. But we have the idea of a balance of power in our Monroe Doctrine. The United States, as protector of the continent, has given notice of an intention to intervene if any European state should attempt to acquire territory on this hemisphere, on the ground that such attempts were "dangerous to our peace and safety." The United States has repeatedly, in the past, threatened intervention in case Spain should cede Cuba to England or any other power, and has thus claimed a voice in American arrangements beyond the limits of the great republic.

These special doctrines of Intervention, the Balance of Power in European affairs, and the policy of the Monroe Doctrine in the New World, fall literally within the general principle that intervention is justified only when its object is to prevent intervention. In both cases, however, any interference, either by compulsion or by consent, with present territorial arrangements in Europe or America is construed to be such an intervention in the affairs of states whose territory is not affected as would justify intervention as an antidote. Herein lies the difference between these special cases and the general case of intervention: for, in the latter, only actual attack or actual threats of attack, and never the anticipated danger of possible attacks, are sufficient to warrant intervention.

We have now spoken of the right of each state to select its own government and laws, and to increase its population, territory, and influence; and we have seen that intervention is the proper and only check operating to distribute that right equitably and equally among the nations of the earth. It may be well to mention one other right which is included in the sovereignty of the state, and which has a practical bearing on the matter of intervention, namely, the right of a state to enlarge its army and navy. May a state maintain

an army and navy of any size it chooses? It is clear that a large military force is a constant menace to other states, certainly of a more demonstrative nature than would be the mere moving into the neighborhood. Nevertheless, as a general rule, sovereign states are not in the habit of consulting other states regarding the size of the army or navy they may maintain. They cultivate their physical strength to the extent of their ability or wishes. But it is conceivable that this right also, like any others, might degenerate into a license injurious to the interests of other states, in which case the intervention of the latter may become proper. If an extraordinary armament is made at a time when unpleasant relations exist between the state and another nation, and there is reasonable cause to believe that the military expansion is directed against the latter, such a threat of attack may amount to an intervention justifying the second state in striking a blow before the aggressor has matured his attack. Or if, after the proposals of universal disarmament made by the Czar of Russia had been adopted by the European nations and they had reduced their military forces to an agreed minimum, any one state made a subsequent show of overawing military strength, this might well be interpreted to be a menace to the sovereignty of other states and to be a ground of intervention.

These examples go to show that intervention is the only effective method which, in cases of individual excess of freedom, is competent to restore the proper balance of rights. Presumptively intervention is an offence against the sovereignty of the state against which it is directed, and would always be so if the nature of human beings and the composite nature of states composed of human beings were perfect. But the imperfections of human nature justify intervention whenever it is undertaken, not for the purpose of assailing the sovereign rights of the state interfered with, but of saving the sovereign rights of the state intervening; just as the killing of a human being is justified

whenever it is done, not with the object of destroying a human life, but with the object of saving a human life wantonly attacked.

It must be admitted that this treatment of our subject is properly exposed to the criticism that international law is not derived from general principles, but founded on the practice of nations. If the practice of nations in regard to interventions had been uniform, the rule of international law would be simply the statement of such practice. We receive, however, on the question, What is the practice of states concerning intervention? so many discordant answers that it would be easier to find a needle in a hay-stack than a rule in the bewildering chaos of historical cases of intervention. Likewise, if we consult the personal views of the sages of international law, we receive many answers. Some hold that states are under an absolute duty of non-intervention; others enumerate yards of cases in which one state may lawfully interfere with the internal affairs of another.

The only way in which any scientific conclusions may be reached regarding intervention is, then, to approach the question on principle. In doing so care must be used to base one's deductions upon principles universally recognized in the life-plan of modern nations. The principle already indicated, namely, that intervention should be resorted to only to prevent wilful intervention, is borne out by the most recent international phenomena into which the policy of intervention enters. Former interventions, even down to this century, afford no guidance; for the only principle which the most microscopic eye could detect in these is the arbitrary tyranny of a powerful state over the will of a weak one. False patriotism alone could invent an excuse for them. But the doctrines of the Balance of Power and the Monroe Doctrine contain the germ of the true principle, although they stretch its interpretation by defining a mere expansion of territory over definite portions of the earth's surface as an intervention in itself, to be

resented by states concerned only indirectly and by anticipation of possible danger to them. The fact that this arbitrary definition of an illegal intervention justifying an intervention in self-defence is expressly confined to the continents of Europe and America shows the existence of the more general principle that the unjustified intervention, curable by possible intervention, should be more than a mere anticipation of a possibility of attack, should be an attack, or at least a direct, imminent danger of attack. Both the Balance of Power and the Monroe Doctrine are results of high international policy, and great improvements upon the ancient methods of intervention. The object of both is to prevent interventions by preserving the present order of things, in the language of diplomacy, by preserving the *status quo*. They are formal notifications to the world that interventions by powerful states or concert of states will happen if any one state should be rash enough to interfere with the present order of the European or American world. They are a resort to the homeopathic method of curing an evil, as applied to state-craft. The method is, in our days, becoming very popular in statesmanship: there are strong indications that England's policy in the Far East amounts to a Monroe Doctrine of her own transplanted to East Asia. In a recent speech the Chancellor of the Exchequer said: "We do not regard China as a place for conquest or colonization by any European or other power." Shades of Monroe, what a plagiarism! Seventy-five years ago our own President declared that "the American continents are henceforth not to be considered as subjects for future colonization by any European powers"—note that England has borrowed the very words of our famous Presidential message. This policy on the part of England is being forced upon her by recent events. Numerous great European powers have been nibbling at the Chinese Empire during the last forty years, England proving the leading nibbler. Even a year ago she added a slice of Chinese territory to her Burmese possessions in the

South (Kokang). Of course, at a time when she was herself engaged in systematic intervention, it was not convenient to adopt the policy of the Monroe Doctrine for Chinese affairs. But recently France, Russia, and Germany have shown a disposition to allow the nibbling process to degenerate into a devouring appetite, and the time has come for England to say: "Stop! We do not regard China as a place for conquest or colonization by any European or other power!" True, the other powers interested in China are not quite ready to accept the present Asiatic *status quo*: but no doubt after their respective hungers are stilled, they will join the satisfied John Bull in composing an East Asiatic Balance of Power; and will all agree on a scheme of joint intervention in case any state should venture upon disturbing the mutually satisfactory arrangement.

These modern instances confirm the rule that intervention is justified in all cases in which the safety of the intervening state or combination of states demands it; in which the self-preservation of a state whose free development has been wrongfully interfered with warrants it; in which its object is to uphold the independence of a state first attacked, not to destroy the sovereignty of the state against which the intervention is undertaken.

The grounds upon which intervention is ordinarily claimed to be permitted, are referred by Mr. Hall, in his Treatise on International Law, to the following four causes:

First: The right of self-preservation;

Second: The right to oppose wrong-doing;

Third: The duty to fulfil engagements;

Fourth: Friendship for one of two parties in a state.

The first class of interventions: those undertaken to enforce the right of self-preservation have already been discussed. No one seriously denies their legality. The second class, interventions made with the object of enforcing the right to oppose wrong-doing, may be directed either against illegal acts or against immoral acts. It is clear that there can be no efficient international law if no check

or punishment is provided for the commission of acts contrary to law. If a state goes outside the region of legal acts, the outer circle in our imaginary diagram, it infringes upon the rights of other states, and commits, therefore, an illegal intervention. The only remedy against such a wrong is intervention. International society would be in a state of anarchy without this remedy. Interventions directed against immoral acts of other states stand on a different legal footing. The fundamental idea of international law is that it treats of dealings between state and state, and has nothing to do with the internal composition of states, or with acts done by the individuals of a state and directed against other individuals of the same state. "Tyranical conduct of a government towards its subjects, massacres and brutality in a civil war, or religious persecution, are acts which have nothing to do directly or indirectly with such relations." (Hall, p. 302). Every state commits, at times, acts which would be located in the disapproved region between the circle of moral acts and that of legal acts; some have sanctioned the institution of slavery within their boundaries; others have outraged the moral sense of humanity by a heartless persecution of a portion of their population. To nations, as well as to men, is directed the admonition, "He that is without sin among you, let him first cast a stone at her." Interventions undertaken on humanitarian grounds have no standing in international law in its present stage of development. Nevertheless, "intervention for the purpose of checking gross tyranny, or of helping the efforts of a people to free itself is very commonly regarded without disfavor." (Hall, p. 303.) The reason for this is that there is a tendency towards consolidation of individual national interests into the paramount interests of humanity, a development into an organic body of states. Some day when this body reaches an effective organization, it may legislate for all states and enforce its laws by interventions undertaken against a recalcitrant member of the society by a combination of

forces. As long as this organization is not perfected, however, a state intervening in the internal affairs of another on humanitarian grounds can, at most, have the moral satisfaction of knowing that a higher development of international law—such as the future may realize—will some day sanction its act; judged by the standards of international law as it actually is, however, this kind of intervention is outside the law.

The third class of interventions is those undertaken on the ground of a previous treaty engagement. Suppose two states, X and Y, have formed a treaty of alliance; does this circumstance make an intervention on the part of X legal, if state Y is attacked by a third state, A? There are two cases possible: either Y is attacked by A illegally, in which case X has a right to intervene in favor of Y on the general ground that intervention is justified for the purpose of saving the independence of a state whose life is threatened—no treaty engagement is, in this case, necessary—; or Y is attacked by A in consequence of a previous unwarranted intervention by Y in the sovereign rights of A, in which case A's intervention is legal, Y's previous intervention illegal. State X has clearly no right to intervene on the ground of the treaty. The treaty itself can have no legal force, for it would simply be an agreement by two states to commit an illegal act. The agreement of two wrong-doers cannot make that legal which the law forbids. In neither case mentioned could it, therefore, be said that intervention is justified if founded on treaty engagements. The same reasoning applies to the fourth proposed class: interventions in the affairs of a state on the ground of friendship for one of the parties to a civil disturbance. The principle of the independence of states would have to be abandoned, if interference in the domestic affairs of states on such sentimental grounds were for a moment admitted.

Such are the principles governing intervention as derived from universally recognized principles of international law, especially that of the independence of sovereign states.

As long as the independence of states is a principle of international law, it cannot be perceived how the limits of legal intervention can be extended beyond the scope of the self-interest of the intervening state. If we take care to observe the drift of international law, we shall, indeed, notice a gradual breaking down of the principle of independence, as a result of the growing unification of states into a larger body, the state universal, comprising civilized humanity. When this development is consummated, the single interests will fade away into the general interest, and then there will be room for intervention in the internal arrangements of a state which leads a disorderly and immoral life. But I fear this condition of national life lies still in the far future, somewhere in the neighborhood of the millenium. For our own country the question of intervention is, and will be with increasing force, one of the most important questions to study and reduce to a settled system. In the career of imperialism just begun, in the struggle of opposing interests to be adjusted, in a new life which will necessitate close and constant contact with other nations, it behooves us to face with calm, scientific spirit the question when we meet it: Shall the Republic intervene? This alone will save us from the troubles and misfortunes which are sure to fall to the lot of the individual or nation that allows its existence to be swayed by the breezes of sentiment and passing moods, unsteered by steady, calm thought.

ETHOLOGY: STANDPOINT, METHOD, TENTATIVE RESULTS.*

By THOMAS P. BAILEY, Jr.

PART I.

A science whose claim to exist is disputed cannot readily be defined. John Stuart Mill predicted ethology some fifty years ago. To him it was to be the "science of the formation of character," or, more shortly, the "science of character." As some thinkers decline to restrict the term "science" to the natural sciences, so called, and as character is developed as well as "formed," we may roughly define ethology as the empirical science of the development and formation of character. However, no science of character worthy of the name can dispense with the insights and criticism of the philosophical disciplines. If Mill and Bain were right in thinking that ethology must underly the scientific study of education, the highest and most rational ideals of the whence and whither of man and the universe must spiritualise the standpoint, method, and conclusions of the science of character. My first duty must, therefore, be to indicate the relation of philosophy to ethology.

If we provisionally characterize education as (1) training for habit, or faculty, (2) nurture for instinct (character-tendency, many-sided interest), and (3) development for aptitude (talent, special powers), we may

*Those interested in the literature of ethology (as I conceive it) will find a partial bibliography and some typical references in a Library bulletin about to be published by the University.

say that "training" is more specially concerned with the psychological side of ethology; "nurture," with its social side; development, with its biological side, using the word biological in the widest possible sense. For the purpose of these articles, it will be sufficient to discuss the relation of ethology to "sociology" and psychology. One must remember, however, in this discussion of standpoint, that this attempt to critically stand outside of one's work is perforce doomed to failure unless one has readers that are sympathetic on account of having themselves felt the need of an ethology. The same general remark applies to the section on method. One often has to do a thing first, and then find out afterward how he has done it. In the second article on "Hypothesis and Tentative Results" will be found a venturesome attempt to compress much thought into little space. I trust that the apparent abstractness and technicality of the treatment will not frighten those who have read the first article. An influential man said the other day: "Every teacher at the University teaches about character." Even so; hence the necessity of following with sympathetic, but critical, eyes any comprehensive attempt to work out an ethology.

I. STANDPOINT. 1. When Socrates began to interest men in the study of human nature, the first ethological note of philosophy was sounded. The theoretical and the practical, the ideal and the real, the concrete and the abstract, came by turns under investigation; but under them all, and giving them valid significance, was the idea of the human spiritual character, at once universal and particular. In the half-poetical philosophy of Plato, the lines of the leading philosophical disciplines appear; in Aristotle, philosophy begins to be self-critical and to separate its method from that of science. The naively ethological view of Socrates is lost; but Plato's Justice and Aristotle's Golden Mean become the corner-stone of a philosophy of character that is at once concrete and generic. When Bacon revived and transformed the *scientific* Aristotle, when Descartes'

"method" gave a modern form and spirit to the *metaphysical* Aristotle, two of the aspects of the study of character began to be clearly defined. Locke and Leibnitz differentiate the philosophical study of character, the one emphasizing the psychological side, the other the metaphysical view. Descartes and Spinoza had felt the ethological importance of the emotional life, but were unable to bring it into effective connection with psychological mechanics on the one hand, and metaphysical universality on the other. Locke's Sensation and Reflection (with the stress on the sensation) critically clarified by Hume, Leibnitz' Monodology as a rational basis for individualism—these give us typical examples of the dependence of *any* science of character on the philosophical disciplines. Kant's criticism shows the limitations both of the natural science of character and of metaphysical philosophy of character. Moreover, he restored to psychology the *relational* element of thought that the school of Locke and Hume had obscured. Finally, he performed the function of a modern Socrates in that he made conscience a "Practical Reason," the Greek "Harmony" penetrated by the Christian "Duty." Herbart's realistic psychology, his educational doctrine of "many-sided interest," and his structural apperceptionism, combine some of the most valuable elements of Locke, Leibnitz, and Kant; while Hegel, with his idealistic developmentalism and his organic view of history, worthily corrects the Herbartian atomism and, by anticipation, the one-sided empirical evolutionism of our day. In Schopenhauer, the psychology of impulse and emotion enriches the English sensationalism and the German relationism. Finally, Lotze attempts—though, it seems, unfruitfully—to unite the conflicting elements in a concrete-generic "higher synthesis."

It would be manifestly absurd to pretend that the few lines above indicate satisfactorily the contributions of philosophy to ethology. What they are intended to do is to point out the fact that a merely naturalistic ethology is

impossible, that other sciences can more or less afford to disregard the history of philosophy and the philosophical criticism of their notions and assumptions, but that ethology must accept certain conclusions of philosophy as postulates, and must not proceed on the purely naturalistic assumptions of some of the other sciences. Physics, Chemistry, Biology, care nothing for God, freedom, immortality; ethology must not only admit that these notions are part of the make-up of human nature, but must refuse to act as if they were not true. On the other hand, ethology is not called on to take sides in matters that do not evidently bear on its assumptions, methods, or results. Perhaps a short statement of the philosophical postulates of ethology as they appear to me may not be useless.

The only self-subsistent realities are characters. "Matter" is real only in so far as it is the product of the creative activity of characters; so far as it is a necessary factor in the self-realisation of characters forming an organic society, whose effective law is that of a Perfect Character. "Consciousness," too, is an abstraction when viewed by itself; it is the necessary presupposition of self-consciousness, which in turn is the necessary presupposition of autonomous conscience. Mechanical "matter," the product of a conscience organising a society of subordinate but free consciences, is the necessary antecedent of "vital matter," which in turn conditions "conscious matter." Men's characters are thus both products and creators. As creators they subject the produced part of themselves and "nature" to the creative part of themselves, in accordance with the supreme law of their nature (reflecting the nature of the Perfect Character) which law they choose to obey as co-operative members of the Society of Characters. Time and space and development are probationary conditions of *social* self-realisation. Whether they "exist" objectively or subjectively, or both, is of no moment provided they be not the *final* conditions of character, but register modes of character-activity to persons not perfect. The time-order

is just the eternal order abstractly and imperfectly viewed. "Nature" and the "natural" part of us is inflexibly predetermined—the "end is in the beginning." The evolutionary order is arranged for—of ourselves we do nothing. Our empirical characters serve as the probationary occasions for self-determination. To determine ourselves wrongly is to forfeit the conditions of reality, is to necessitate the divine experiment to continue—through others perhaps—until the number of the autonomous elect fits the world prepared for it. God's knowing our failure is the same thing as His continuing to seek for a free person who wills to be His son. To be saved or damned in time and space by "heredity and environment," is not to be saved or damned at all. Our character-attitude, our conscience-action toward this salvation or damnation (as it happens) will determine whether we are sons of the Father and His Society or whether we "go to our own place," which cannot be anything significant and real apart from the Father and His sons.

Each one of us reflects the universe from his own peculiar standpoint. Each is himself and not another. Each character is unique; particular and universal; social, individualistic, and personal. The universe's interests are ours, and ours are the universe's. We seek to bring about the Society of which each one of us is a member. We seek not the Society apart from ourselves, or ourselves apart from the Society. So far as we interact with others we are simply natural agents, products and not creators; so far as we *really* co-operate with others, we are creators, and are members of the Kingdom of which God is the Integrator. The natural order seems to us progressive; stage by stage does the end that was in the beginning manifest itself as the end. Hence an empirical study of character, if its aim is sincere (ideal), and its method scientific, sympathetic, and critical, must itself become a factor in the evolution of knowledge and reality; although *as* ethology it must declare metaphysical problems beyond its ken.

Two objections to this view present themselves—first, it is "obscure metaphysical jargon;" second, it is theological. In answer, I would say: First, that the thought seems clear and helpful to me, while I am conscious that I am not able to state it as a professional philosopher would; second, that all philosophy is profoundly influenced by theology, just as all theology is the metaphysics of religion. The unanalysed religious conscience may tell the same story as philosophy, though in a social or collective way. If our view is not based on the religious as well as on the empirical experience of the race, it is not true.

This much may be allowed me—that ethology has a right to postulate unitary characters, germinal and developed, as its starting-point, as its unit, as its datum; instead of starting with matter, consciousness, or some other abstraction. Philosophy and religion give us the individual in his relations to other individuals. We must appeal to the historical and social sciences for the real content of our ideal of society. For the study of the mechanism of both individual and society, we must appeal to the psychological sciences.

2. Many people nowadays believe in the possibility of a "sociology," or the study of society as a whole. I cannot believe that even a successful beginning of such a science has been made. Not only is the "social organism" a metaphor and a fiction, but it tends to distract attention from the only social reality, the individual. While it may be true that philosophy and the old annalistic history have individualized character too much, history and social science of to-day socialize character unduly. The philosophical disciplines and the social sciences alike deal with abstractions. And well they may. For them it is the very condition of existence. But they ought always to *realize* what they are doing. You may *call* a thought-system, or a "social organism" *concrete*, if you choose; but such concreteness is logical only. The only possible synthesis of the individual thinker and the social member is the person,

the character. Perhaps we are to have a philosophy based upon this idea. Even so, we shall still need a *science* based upon it, and that science cannot be sociology. No doubt we shall have many more social sciences than at present, but it seems to me that *divide et impera* will be their rule. We have had poetico-historical philosophizing (Lessing, Herder, *et al*), the "physics of politics" (Montesquieu, Comte, Buckle, *et al*), social biology (Spencer, Schaeffle, *et al*), and numerous other attempts at sociology. At last we are beginning to see that the "sociologists" must follow the example of the economists, and carefully limit the field, while insisting with the "historical school" of economists that our abstractions do not represent the whole man. But I cannot see that anything is gained by calling the *socius* or his *societas* the "whole man." If there is a definite historical development and a coherent set of social "laws" or modes, we can obtain them only by abstraction from the social individuals or characters that make up society. We may estimate the character, effect of climate, soil, race, or we may show how the social aspects of man's nature dominate him at times; we may compare "ontogeny and phylogeny," we may understand individuals and peoples vastly better by studying the social results of common traits of character; but surely we must realize that the science of human nature is possible only on the supposition that characters have *substantially* the same tendencies and traits, that the macrocosm is a resultant of microcosmic forces. This is the standpoint of the atomic and organic sciences, even (as in physics and chemistry) when the scientific imagination is called on to construct the units the senses cannot lay hold of. The sociologists are telling us that their science is becoming psychological. Let us then see whether psychology can furnish us with our units or monads.

3. The struggle between the sensationalists and the relationalists has been touched on above. "Empirical psychology" has never yet discussed character; for states of

mind, ideas, apperception-masses, etc., are not traits of character, do not tell us what a character is or does, but are merely the mechanism of a part of one aspect of character. "Association" and "apperception" cannot explain development, temperaments, prejudices, ideals, motives, or anything else we want to know about *concrete* character. They are at once too abstract and too specific, whereas ethology ought to be concrete and generic. True, ethology needs psychology, but it needs the philosophical and social sciences also. John Stuart Mill, the predictor and namer of ethology, could not construct even the beginnings of such a science. States of mind, successions of ideas, yea, even apperceptive systems of apperceptive groups, put us not one whit nearer real character. Psychology needs no justification. It has now become, or is becoming, a group of sciences—physiological psychology, biological psychology (Baldwin, Morgan, *et al*), social psychology, etc., as well as empirical and "rational" psychology. But while the science of character-development uses the data of the psychologist, and, when possible, his insights, his methods, and his generalizations, it cannot put the psychologist's various useful abstractions together and thus make an ethology to order. Its method is as different from that of psychology as the method of embryology is different from the method of physics. Mill thought that differences of temperament could be explained psychologically. Bain made an attempt—the result is not inspiring. Paulhan has grasped the principle of association in a very organic way, and has written several books with the express purpose of extracting ethology out of psychology. But his *axiomata media* do not explain anything, and his descriptions owe their value purely to his practical insights. His classifications are static and empirical. All this is useful, and is truly a valuable contribution to ethology from the psychological side. But where is *homo socius*, and where do history and the social sciences find their relations to ethology? A science of character must make the whole man significant,

must show his development in all its aspects, must integrate the ethological aspects of biological, psychological, social, and historical sciences, as well as relate itself to the various philosophical disciplines. Perez, Fouillée, Ribot, Malapert, and others have followed this line; and much the same criticism applies to them all. Malapert has been criticised by his brother ethologists because he has dared to introduce "metaphysics." The sociologists, ethologists, psychologists, and the philosophers are working independently of one another. This is well, perhaps, but it will scarcely lead to a concrete-generic science of character. The widespread "child-study" of the day, so far as it is not in the hands of psychologists, is of no particular scientific interest, but it is a sign of the times, as showing the pressing practical need of an ethology to guide educational theory and practice.

II. METHOD. If it is a thankless task to relate the attempted beginning of a new science to sciences and disciplines of more or less acknowledged value, for workers immersed in their work to explain self-consciously the methods they are gradually learning to apply is an almost hopeless undertaking. I can best illustrate my imperfect understanding of the methods of investigation being evolved in ethology by comparing my views with J. S. Mill's famous fifth chapter of the sixth book of his *System of Logic*. Let me quote a couple of significant passages. "A science of ethology, founded on the laws of psychology, is therefore possible, though little has yet been done, and that little not at all systematically, toward forming it. The progress of this important, but most imperfect science, will depend on a double process; first, that of deducing theoretically the ethological consequences of particular circumstances of position, and comparing them with the recognized results of common experience, and, secondly, the reverse operation; increased study of the various types of human nature that are to be found in the world, conducted by persons not only capable of analyzing and recording the circumstances in which these types

severally prevail, but also sufficiently acquainted with psychological laws to be able to explain and account for the characteristics of the type, by the peculiarities of the circumstances; the residuum alone, where there proves to be any, being set down to the account of congenital predispositions. . . . The conclusions of the science as a whole must undergo a perpetual verification and correction from the general remarks afforded by common experience respecting human nature in our own age, and by history respecting times gone by." These methods may lead to a science of the formation of character as Mill (*quid* psychologist) understands character—states of consciousness coexistent and sequent. I cannot see that such a science would be valuable if it were possible, and I do not believe it to be possible. In the first place psychology is not far enough along to perform the function ascribed to it. And yet psychology is far more organic nowadays than it was fifty years ago. I have yet to find the psychologist that can "deduce theoretically the ethological consequences of particular circumstances of position." Modes of psychological process in no wise explain the motives and tendencies of character. One may as well agree with the "scientists" that think that biology is a mere branch of physics. Physical biology leaves out life, and merely psychological ethology leaves out all that is developmental and significant in organic character. Where is the abstract psychological explanation of tendencies, such as the economic, religious, artistic, scientific, etc.? Do "circumstances" explain these tendencies, however much you apply the laws of association and apperception to them? Then, too, the "recognized results of common experience" utterly lose their significance when "explained" mechanically and abstractly. Mill gives us a number of methods whereby the study of social phenomena may be carried on, but he seems not to see that the results of all the psychological, social, historical, and philosophical sciences, as well as all the methods appropriate to them, must be used in the

microcosmic science, the most organic of all, ethology. He would have us analyse the types of character and account for them. We must first get the types; we must have some criterion of what is typical, we must at least have some way of deciding whether there *are* types. If psychology cannot classify the emotions, which are typical mental states, if there are any, how much can we expect from its analysis of types of character? Imagine, too, the value of an explanation that accounts for the effects of "circumstances" in a purely psychological way, and leaves the unexplained "residuum," "when there proves to be any," to "congenital predisposition." Surely this is Hamlet with the Prince left out. Mill's merit is so great in recognizing the need of an ethology that one feels that he should be judged by his deeper philosophical instincts rather than by his mechanical conception of character when he is psychologising.

What, then, is our method? Induction and deduction? Yes; for character tendencies must be inductively arrived at from a survey of the phenomena of human nature—industrial, political, personal, etc., and the general principles of the sciences concerned with humanity must be deductively applied to the study of the tendencies we have provisionally found. Observation, experiment, and verification? Yes: introspection for the sake of studying motives, tendencies, trends, attitudes, etc., with which psychology does not concern itself, except so far as these group themselves by mechanical processes; observation of children's development, of animal instincts and habits (rather than of their "percepts" and "recepts"); observation of social phenomena as phases of individual life, and of individuals as they are affected by known social conditions. Experiment Mill does not believe to be practicable. And he is right, if one must "explain" every change and situation in a *psychological* way, but we can, and do, test tentative ethological conclusions by watching the effects on *character* of the changes introduced into the kindergarten and school

practice. The difficulty in the interpretations of such experiments is not very great when we know the children intimately, when the test is comparative, when it is confirmed by individual cases under widely differing conditions, and when observation shows that such experiments carried on *naively* lead to the same results. Experiment, however, is only corroborative, and cannot be trusted alone. The best verification of ethological conclusions seems to me to be given in the increased insight into life, history, the social sciences, and philosophy, and at the same time in the increased ability to comprehend other characters and to deal with them intelligently. Ultimately, no doubt, the best verification will be found in practical education, though much time and many tears must intervene before such results can be reached. All that I have said about ethological methods is of little significance if two additional principles are not taken into account:—(1.) *Hypothesis*. Without some sort of working hypothesis the complexity of the subject baffles all efforts. The doctrine of biological development, differentiation and integration, modified by philosophical criticism and by the view of character expressed in the first part of this paper, this is the hypothesis, the most organic one to hand. Each character tendency is represented as differentiating into more specialised form; as becoming integrated in some of its aspects with certain tendencies, and in other aspects with other tendencies. All the higher instincts are prophesied in the lower; all the lower are included and transformed in the higher. (2.) *Concentric Lines*. The crossing-points of various lines of observation, argument, etc., are taken as centers from which further study is carried on along the various lines thus intersecting. Thus, when biographical, historical, introspective, political, and other classes of data point to the same general conclusion, it is tentatively applied to the ethological side of the fields co-operating in suggesting a common conclusion.

In order that the foregoing may be clearly grasped, attention is directed to the diagram of character development in the second article, and the notes that hint at an explanation of it. Brief—and hence inadequate—as the next section must be, the thought underlying it is, in the opinion of the writer, one of the main reasons for the existence of ethology, as differentiated from other psychological sciences.

THE ESTABLISHMENT OF THE COLLEGE OF COMMERCE.

The following extracts from the minutes of the Board of Regents and of the Academic Senate give the successive steps in the establishment of the College of Commerce.

On March 9, 1897, Regent Rodgers offered the following:

Resolved: That a College of Commerce be established in the University of California, and that a committee of three in addition to the President be appointed by the chairman to report a course of instruction in such college.

The matter was referred to the Committee on Internal Administration, and on June 8, 1897, was, on its motion, put into the charge of a special committee composed of Regents Rodgers, Marye, and Hallidie.

On January 15, 1898, this Committee reported as follows:

Your committee appointed to consider the resolution (referred to us on the 8th day of June, 1897) establishing a College of Commerce in the University, submits the following:

This report has been delayed in view of the fact that this was the first direct effort to found a complete College of Commerce in any University.

First—The Scope of a College of Commerce will be better indicated by the outline of subjects hereafter set forth, than by any attempted definition or description.

Second—The Experience in Advanced Commercial Education of Other Communities:—

Our information concerning the schools for higher commercial education in Europe and in the United States has been derived from many sources. But we feel especially indebted to the writings and correspondence of Professor

Edmund J. James, formerly of the University of Pennsylvania, and at present in the University of Chicago.

There are probably sixty commercial high schools in the German Empire, ten in France and Belgium, and fifteen in the Austrian Empire and Italy, which schools average about 125 pupils each. Some of these were founded over a hundred years ago, but most of them since our University opened.

These schools were generally founded by merchants' guilds, chambers of commerce, or city councils, as well as educational corporations, and are now maintained by such bodies, often with the assistance of the State. They are independent schools, having no affiliation with other institutions nor with each other.

Instruction usually extends through three years, covering generally the same subjects in all the schools. The first two years are devoted to training apparently appropriate to retail business, while the third year seems to prepare students for wholesale business—more comprehensive work—a broader career. Its studies are deemed appropriate for those who have taken the Bachelor's degree in the classical, scientific, and technical schools; and may be said broadly to correspond in rank with our sophomore courses. Indeed, a large percentage of their graduates entered these schools upon their Bachelor's degree.

The success of these schools has been creditable, especially in view of their development outside and in spite of the universities and pedagogic efforts. They have grown according to the enlightened commercial spirit of their respective communities. It is said that not one of over a thousand graduates of these schools of France has abandoned his chosen career, and that about eighteen per cent. of these graduates are devoting themselves to foreign commerce. The growth of German internal commerce, and especially of German foreign commerce, during the last decade or two has been unparalleled, probably, in the history of commerce. During that time her advanced

commercial schools have been the most numerous, and have taught more pupils than those of the rest of the world. They have learned every language, and have gone forth as successful missionaries of German trade into all countries. The success of the advanced commercial education in Germany has excited alarm in Great Britain, and various methods of securing like training have been undertaken and outlined very recently. Japan has established a successful school after the general plan of the European schools mentioned. In the United States there are a few similar schools of recent establishment. About fifteen years ago the Wharton School of Finance and Economy was established in the University of Pennsylvania. This excellent department affords instruction which should form a part of a complete College of Commerce. The President of the University of Chicago has recently announced a prospective department in that institution, with aims and methods similar to those of the Wharton School, to be called a College of Commerce and Politics.

To sum up the experience of other communities:—Advanced commercial training corresponding to our college work has been developed independently of university work. It has been developed upon the demands of practical men. It has made successful business men, and has kept them at their career.

The internal and external commerce of communities has reasonably corresponded with its development in such communities.

It is already recognized as proper work in some universities.

Third—Additional Courses Required in the University of California.

In order to indicate these courses, we give first an outline of the general subjects already taught in some of the advanced commercial courses—the same subject being in some instances, it may be, covered by different headings:

1. Theory of Commerce.
2. Merchandise.
3. Transportation—inland, maritime.
4. Means of Commerce—harbors, vessels, motors, railroads, telegraphs, telephones, postal service, lighting.
5. Warehousing.
6. Insurance against loss of property and of life.
7. Commercial museum.
8. International trade and its usages.
9. Business records.
10. Accounting and book-keeping.
11. Office training.
12. Commercial correspondence.
13. Business printing and advertising.
14. Stenography and writing.
15. (National) language.
16. Two or more foreign languages.
17. Mathematics.
18. Technology.
19. Raw material—commercial products.
20. Physics—in laboratories.
21. Chemistry—in laboratories.
22. Tests and analyses and adulterations.
23. Mechanics—in laboratories.
24. Natural history.
25. Political economy and civics.
26. Finance and banking.
27. Commercial law.
28. General history.
29. History of commerce.
30. Drawing.
31. Elements of public law.
32. Elements of national civil law.
33. Commercial legislation.
34. Foreign legislation.
35. Maritime legislation.
36. Industrial and labor legislation.
37. Fiscal (financial, taxes, customs) legislation.
38. Commercial statistics.
39. Commercial arithmetic—usages in measures, etc.
40. Physical geography.
41. Commercial geography.

In addition to the instruction in course, graduates from several of the European schools are granted three years'

traveling scholarships of about fifty dollars a month, most of the time to be spent in such foreign ports as may be agreed upon, with occasional reports.

A normal course of an additional year or two is given in some of the European schools.

A notable feature of instruction in the Superior School of Commerce at Venice is the addition to the ordinary three years' commercial course of two years' instruction to complete the consular course and that of ministry of foreign affairs. In this additional work, besides French and English or German languages already pursued, are included:

42. Studies in diplomatic and political history.
43. Theoretical statistics.
44. Public international law.
45. Constitutional law.
46. Criminal law.
47. Judicial procedure.
48. One Oriental language.

The foregoing list does not embrace all the subjects which we think should be found in this college course, and it may be, some which should be excluded. Such college courses best adapted to our wants should be formulated with the further assistance of specialists, and developed by our experience. But tentatively accepting the above list and comparing it with instruction already given in the University, we find that with little additional assistance and few changes, all of the last twenty-seven subjects could be readily taught in the University, leaving training in the first fourteen to be provided. This last group is distinctly professional and would require additional teaching force. At present, we think, at least one Professor of Commerce should be chosen. And the greatest care should be exercised to secure a vigorous, practical, tactful, and distinguished professor, whose success in similar work elsewhere, would assure the most favorable organization and beginning of the new College. Such additional instructors can be

provided as demanded by the increase of students. We confidently hope that commercial bodies and individuals will provide equipment of such a college, and travelling and non-resident scholarships and instructors.

Fourth—The Duty of Establishing the College of Commerce:—

The Organic Act, 1868, precludes any question of the policy of founding this college. It provides:

"SEC. 1. The University shall have for its design to provide instruction and complete education in all the departments of science, literature, art, industrial, and professional pursuits, and general education and also special courses of instruction for the professions of agriculture, the mechanic arts, mining, military science, civil engineering, law, medicine, and *commerce* and shall consist of various colleges."

* * * * *

This is the first statutory provision in our country on the establishment of a College of Commerce.

All of the other professional colleges mentioned, agriculture, mechanic arts, mining, (military science), civil engineering, law, medicine, have been established.

Aside from this duty and the general policy which require the organization of a College of Commerce, our situation and development urgently demand it.

Hitherto California has been isolated by mountain, desert, and sea, and by a climate and valuable resources from the rest of the world, and especially from the great markets of the Atlantic; and our people have been engrossed with exploiting and experimenting upon the resources of this new and strange territory. We have reached that point in knowledge and improved methods where our production is far beyond the consumption of our own people, and capable of vast expansion, even under present conditions. Speaking broadly, we have the population of Paris with the available natural resources of France.

We must reach the markets of the world with least cost and lessen the expense of internal trade.

Hitherto our chief markets have been in the West, the Atlantic States, and Europe; and we have been virtually oblivious to the Pacific Ocean, which invites us to the greatest commercial conquest of all time. The events occurring in the Northwestern and the Northeastern Pacific portend marvelous commercial expansion. In the prospective struggle for this commerce, we, of this coast and country, have opportunities through geography and resource more favorable than any other people of our civilization.

In this connection we deem it proper to quote from the letter of Regent Edward Tompkins in 1872, donating property to this Board to support the Agassiz Professorship of Oriental Languages and Literature: "The business between California and Asia is already very great. Its future is beyond any estimate that the most sanguine would dare to make. The child is now born that will see the commerce of the Pacific greater than that of the Atlantic. . . . It is therefore of the utmost consequence for California that the means shall be provided to instruct our young men, preparing for lives of business activity, in the languages and literature of Eastern Asia."

In conclusion your committee recommends as follows:

1. The adoption of the resolution referred to us that a College of Commerce be established in the University of California.
2. That the President of the University be authorized to recommend to the Board a nominee as professor in this college, with such title as may hereafter be adopted.

Respectfully submitted,

ARTHUR RODGERS,
A. S. HALLIDIE,
GEO. T. MARYE, JR.,
Committee.

MARTIN KELLOGG.

On motion of Regent Marye it was voted that the report be printed, that a copy be sent to each member, and that action upon the suggestions of the committee be taken at the next meeting of the Board.

On February 8, 1898, the report was called up, and on motion of Regent Marye, adopted. The following resolutions offered by Regent Rodgers, were also adopted:

WHEREAS: A College of Commerce has been established in the University of California, and one of the subjects of instruction in this college will be marine transportation, and

WHEREAS: Congress by "An act to promote a knowledge of steam engineering and iron ship-building among the scientific schools or colleges in the United States," approved February 26, 1879, authorizes the President of the United States to detail an officer from the Engineer Corps of the Navy as a professor in such college, therefore

Resolved: That the President of the University is authorized, on behalf of the University, to make application to the President of the United States for the detail of an officer in pursuance of this Act of Congress, as professor in our University.

At the same meeting a communication from the Merchants' Association of San Francisco was received, expressing 'its appreciation of the honor conferred upon the mercantile calling by the establishment of a College of Commerce in the University of California.'

At the meeting of March 8, 1898, President Kellogg reported as follows:

Application for the detail of an Engineer officer for duty as a professor in this University was made to the President of the United States, according to the instructions of this Board, and was by him referred to the Navy Department. The following communication has been received from Acting Secretary Roosevelt:

Your communication of the 14th instant, addressed to the President of the United States, requesting that an Engineer officer be detailed for

duty as a professor in the University of California, has been forwarded to this department for answer. I have the honor to inform you that, while the department believes the detail requested would be productive of great good, and it should be very glad to assign an officer to this duty, if one were available, yet the demands for officers of this corps of the navy, for strictly naval duty, are so great, at the present time, as to make it impracticable to spare an officer for this duty.

At the same meeting Professor George Davidson, Ph.D., Sc.D., was elected Professor of Geography in the College of Commerce, and at the meeting of April 19 his letter of acceptance was read.

In May a committee of the Academic Senate was appointed by the President of the University to attend to the details of organization of the new college, and to prepare a preliminary announcement. At a meeting of the Senate, on June 9, it submitted the following, which was adopted and ordered printed:

ANNOUNCEMENT CONCERNING THE COLLEGE OF COMMERCE.

1.—SCOPE AND CHARACTER OF THE COLLEGE.

A College of Commerce was established in the University of California by vote of the Board of Regents, January 15, 1898.

This College is intended to afford an opportunity for the scientific study of commerce in all its relations, and for the higher education of business men and of the higher officers of the civil service.

A complete College of Commerce should provide for two sets of activities: (1) instruction; (2) scientific investigation.

Eventually the College should carry on continuous investigations in all the movements of trade; in transportation, communication, exchange, finance, banking, and insurance; in markets, products, and prices; in short, in all the conditions, legal, political, economical, and physical, upon which trade depends. The results of these general

investigations should be published for the use of the community and special investigations should be made from time to time in response to the demands of the community.

The College should also offer those persons intending to enter a business life or the civil service an opportunity to obtain a "college education" which will have some practical bearing upon their future work. In order to accomplish this object adequately, the College should be able to offer, besides the fundamental courses, a large number of special courses upon the different subjects more or less closely related to commerce, so that the student may arrange his studies with special reference to the object he has in view.

Some of the courses, fundamental and special, belonging to the curriculum of such a college, will be found in the following list. This, although far from complete, will serve to indicate the scope and character which it is hoped this College will eventually attain:

Philosophical Studies:—

History and Principles of Commercial Ethics.

Legal Studies:—

Commercial Law of different Nations.

Public International Law, and the Duties of Diplomatic and Consular Officers.

Private International Law.

Admiralty and Maritime Law.

Roman Law.

Comparative Jurisprudence.

Judicial Procedure in different Countries.

Law of Private Corporations; and other special courses.

Political Studies:—

Constitutional Law of different Nations.

Public Law and Administration.

Municipal Government.

General Political Theory.

Legislative Control of Industry and Commerce.

Historical Studies:—

The general political and constitutional history of the leading nations, especially during the XIXth Century; diplomatic history. (Economic history, that is the history of Industry and Commerce, is of such importance as to constitute a separate group; see below.)

Economic Studies: General Theory and Analysis:—

- Political Economy: General Principles and Theory.
- Labor and Wages.
- Theory and Practice of Exchange; foreign and domestic.
- Theory of Value.
- Markets: their organization and the determination of prices.
- Currency: in all countries.
- Banking; in all countries.
- Economic features of Transportation, by land and water. (A subject in which many special courses should be offered.)
- Industrial and Commercial Organization.
- Corporations and Corporation Finance.
- Communication: postal service, telegraph and telephone, newspapers and advertising.
- Insurance: Fire, Marine, Life, etc.
- Consumption, and the principles of Demand and Storage.
- Commercial Usages of Different Countries.
- Public Finance: Government expenditures, revenues,—including taxation, customs duties, etc.,—public debts, and fiscal administration.
- Statistics, mathematical and practical. History, theory, and methods: the "movement of population," actuaries' statistics, theory of prices, etc.

Studies in Economic History:—

- The History of Commerce in all countries and at every age. (Upon this general subject as large a number of special courses as possible should be offered.)
- The History of the Institution of Private Property.
- The History of Land Tenures.
- The History of Agriculture.
- The History of Industry from the earliest times.
- The History of Manufactures.
- The History of Labor and of Labor Organizations, and other special courses.

Linguistic Studies:—

- The languages and literatures of the nations with which we have commercial relations: American, European, and Oriental.

Geographical Studies:—

- Political Geography.
- Geodesy.
- Physical Geography.
- Commercial Geography.
- Biological Geography: including Botany, Zoölogy, Anthropology, etc.

Meteorology and Climatology.

Oceanography: Coasts, Harbors, etc.

Navigation and Nautical Astronomy.

Geology.

Technological Studies concerning the Materials of Commerce:—

Botany: General Plant Morphology; and Economic Botany.

Forestry, and wild-plant products, also wild-animal products.

Agriculture: cultivated plant products of all descriptions, including field, orchard, and vineyard products; animal products, such as meats, dairy products, wool, etc., and including agricultural practice, irrigation, etc.

Agricultural Manufactures, such as sugar, starch, textiles, oils, brewing, tanning, drying, canning, etc.

Fisheries, and all other products of the sea.

Mining, and mineral products, and building materials.

Chemical Technology, and chemical products, acids, alkalies, etc. Manufactured Products.

Decorative and Industrial Art.

Technological Studies concerning Transportation:—

Civil Engineering and Mechanical Engineering; construction of roads, bridges, canals, irrigation works, etc.; motors and motive power, etc.; railroad economies, etc.

A large number of other special courses in these and other applied sciences connected with the materials and the operations of Commerce should be offered.

Mathematical Studies:—

Courses covering all the mathematical principles involved in the above studies.

The connection of this College with the University makes available a large number of special courses in many of the above lines, and makes it possible for the students to prepare themselves for almost any line of commercial or business activity.

Connected with the College there should be a Commercial Museum exhibiting and illustrating the raw materials, manufactured wares, and in general the industrial and commercial appliances, products, and customs of different nations.

As a practical course it is desirable that students be required or encouraged to spend one or more years in some

foreign country, in order to become thoroughly familiar with its commercial and industrial conditions.

Such in a broad general way is the ideal of the new College which has been established in the University of California.

Although at the present time only a comparatively small number of the special courses in the above list can be offered, yet a sufficient number of the general or fundamental courses are now available to warrant the commencement of instruction. During the first year instruction will be given under the following:

2.—PROVISIONAL ARRANGEMENTS FOR 1898-99.

The curriculum of the College of Commerce will take the same general form as those of the Colleges of General Culture. About one-half of the curriculum is prescribed with a view to the information, discipline, and culture requisite for the pursuit of advanced studies. About one-quarter (the exact number of units is yet to be determined and will be announced later) of the curriculum consists of some one Elective Group of advanced courses, dealing with one subject and not more than two cognate subjects, in the direction of the study and research which the student desires especially to pursue. The remainder of the curriculum consists of Free Electives chosen from any of the courses offered at Berkeley, and pursued at any time during the undergraduate period, subject, however, to any sequence of studies required by the departments concerned.

Provisionally, the requirements for admission and the prescribed studies will be in two sets, between which students may choose according to the object they have in view: 1. Those of the College of Social Sciences; 2. Those of the College of Natural Sciences. In either case six units of Geography must be added to the prescribed studies. (For these requirements see the UNIVERSITY REGISTER.)

Group Electives: For those who present the first set of requirements for admission and prescribed studies, the group elective will be ——* units of advanced studies in one subject, or not more than two cognate subjects, chosen from one of the following groups:

1. Jurisprudence, either alone or combined with one subject from group 2.
2. Economics and politics (including History).
3. Modern Languages.

For the particular courses belonging to each group see the ANNUAL ANNOUNCEMENT OF COURSES OF INSTRUCTION, 1898-99.

For students who present the second set of requirements for admission and prescribed studies the group elective will be ——* units of advanced studies in one subject, or not more than two cognate subjects, chosen from one of the following groups:

1. Geography, Astronomy, Geology, Civil Engineering.
2. Botany, Agriculture, Mineralogy, Mining, Chemistry.
3. Modern Languages.

For the particular courses belonging to each group see the ANNUAL ANNOUNCEMENT OF COURSES OF INSTRUCTION, 1898-99.

The general regulations concerning Military Science and Physical Culture apply to students in the College of Commerce.

At the opening of the University in August three intrants matriculated in the College of Commerce, and a number of students already enrolled in the University were transferred to this College from other colleges.

At the meeting of the Board of Regents, September 13, 1898, Regent Rodgers submitted the following:

* Number will be announced later.

SAN FRANCISCO, September 13, 1898.

To the Regents of the University of California,

GENTLEMEN: I hereby tender to you the following property:

The Flood Residence and tract of about five hundred and forty acres near Menlo Park, California; one-half interest in about twenty-four hundred acres of marsh land adjacent to the residence tract, and four-fifths of the capital stock of the Bear Creek Water Company which supplies water to Menlo Park and vicinity.

The only conditions I desire to accompany this gift are that the residence and reasonable area about it, including the present ornamental grounds, shall be kept in good order for the period of fifty years, and the net income from the property and its proceeds shall be devoted to some branch of commercial education.

Yours very truly,

CORA JANE FLOOD.

On motion of Regent Rodgers the offer was accepted, and a committee appointed to convey to the donor the appreciative acknowledgments of the Board of Regents for the gift.

At the meeting of the Board of Regents on October 11, 1898, Regent Rodgers reported that the committee had delivered to Miss Flood a letter scrolled on silver, of which the following is a copy:

PRESIDENT'S OFFICE, UNIVERSITY OF CALIFORNIA,
BERKELEY, September 13, 1898.

Miss Cora Jane Flood,

DEAR MADAM: On behalf of the Regents we thank you most heartily for your magnificent gift to the University of California, announced to-day. We appreciate it for its great value, for its high purpose—commercial education being in the line of the most recent and most beneficial university expansion—for its freedom from hampering conditions, and as being the spontaneous expression of your own generous and broad impulse to benefit the State of California. And we rejoice that this noble gift will not only bring to yourself lasting honor, but will also perpetuate the name of your father, so long the esteemed Treasurer of the University.

Yours very respectfully,

JAMES H. BUDD,

Governor of the State of California;

MARTIN KELLOGG,

President of the University of California;

ARTHUR RODGERS:

Committee.

At the same meeting, October 11, 1898, the formal conveyance of the property was delivered to the Board, and a permanent committee on the "Flood Endowment" appointed.

At the meetings of the Regents held October 11th and November 9th, the following resolutions appreciative of Miss Flood's gift were read:

From the Merchants' Association of San Francisco:

WHEREAS: Miss C. J. Flood has recently presented a munificent gift to the University of California to be devoted to commercial education, and

WHEREAS: The Merchants' Association from the beginning has coöperated actively with the Board of Regents in securing the establishment of the College of Commerce in the University of California, and will always take a just pride in its successful maintenance and operation; therefore be it

Resolved: That the Merchants' Association hereby tenders to the noble benefactress the profound appreciation of the mercantile interests of California for her generous and thoughtful contribution to the worthy cause of commercial education;

Resolved: That certified copies of these resolutions be transmitted to Miss Flood and to the Board of Regents, and given due publicity.

MERCHANTS' ASSOCIATION:

J. RICHARD FREUD,
Secretary.

A. S. BALDWIN,
Vice-President.

From the Oakland Board of Trade:

WHEREAS: We recognize in the act of Miss Cora J. Flood in so generously and richly endowing a commercial department in connection with the University of California, a philanthropic motive and a munificence so noble in its proportions and so unique in character as to demand the highest possible encomium from the mercantile community and the whole state; and

WHEREAS: The University being located within the limits of our own county, we, on behalf of our city, feel that the inestimable gift to the rising generation should receive from us in particular a recognition, and that the thanks of the Oakland Board of Trade are due to Miss Flood for her great beneficence; wherefore, be it

Resolved: That in testimony of our appreciation of her great service to the cause of education, and to the material progress of our county, state, and nation, we spread on the minutes of our Board a copy of these resolutions, and that the same be transmitted to Miss Flood, to the Regents of the State University, and given to the daily papers for publication.

CRAIGIE SHARP,
Secretary.

E. A. HERON,
President.

From the Chamber of Commerce of San Francisco:

WHEREAS: A most noble and generous act has been performed by Miss Cora Jane Flood whereby the University of California has been made the recipient of a princely estate, and

WHEREAS: While the University directly enjoys the benefits of this great gift, the entire state, city, and community through it participate in all the advantages arising therefrom, and as the conditions accompanying this donation require that the proceeds from the property shall be devoted to some branch of commercial education, the Chamber of Commerce of San Francisco have

Resolved: That we esteem it a great privilege and pleasure to have this opportunity of publicly expressing our appreciation of the generosity of Miss Cora Jane Flood, and of thanking her for having so handsomely kept in mind the needs and benefits of commercial education.

THE CHAMBER OF COMMERCE OF SAN FRANCISCO:

Attest: E. SCOTT,
Secretary.

CHARLES NELSON,
Vice-President.

OFFICIAL ACTION.

At a meeting of the Board of Regents held September 13, 1898, President Kellogg submitted the following:

In pursuance of an intention known already to many members of the Board, I hereby present my resignation of the office of President of the University, to take effect March 23, 1899, six years from my induction into this office.

MARTIN KELLOGG.

On motion the communication was referred to a committee consisting of Regents Rodgers, Wallace, and Black, and the President of the Board, to report at some future meeting.

At a meeting of the Regents held October 11, 1898, Regent Rodgers submitted the report of this special committee, as follows:

Your committee to which was referred the resignation of President Martin Kellogg, submits the following report:

After conference with President Kellogg, we find that the vast recent expansion of the University has added so many new responsibilities and exacting and exhausting duties to the President's office, with a prospective increase, that he feels they should devolve on a younger man.

This is in accordance with his wish expressed to Regents during the last year.

We therefore recommend that the resignation be accepted, to take effect March 23, 1899.

President Kellogg retires with the satisfaction that during his administration of the office the growth of the University has been the greatest in its entire history.

We further remind the Board that President Kellogg was elected Professor of Latin in the College of California in 1860, and continued to hold this chair when the college was merged into the University

and until his election to the Presidency in 1893. In his classical work as a teacher, he has commanded the admiration of four decades of students, and by his published works reflected great credit upon the University.

Aside from his influence as a teacher and author, there has been no greater force towards higher ideals of character and scholarship in all the history of the State than President Kellogg, and he still retains full mental vigor and that moral force which commands the noble respect of his associates.

In view of these facts, we feel that it will be fortunate if President Kellogg will remain in the University, and to that end we recommend that he be elected Emeritus Professor of Latin, to take effect March 23, 1899.

At a meeting of the Regents on November 9, 1898, the report was adopted; and at a meeting on December 13, the following were appointed a committee for the selection of a President of the University: The Governor of the State (*ex-officio*), the Speaker of the Assembly, Regents Reinsteins, Rodgers, J. E. Budd, Hallidie, Hearst, and President Kellogg.

At a meeting of the Regents held December 22, 1898, on recommendation of the proper Faculties, the following degrees were conferred:

The degree of Doctor of Philosophy upon:—Millicent Washburn Shinn, A.B. 1880, Niles.

The degree of Master of Letters upon:—Vida Sherman, B.L. 1897, Oakland.

The degree of Master of Science upon:—Anstruther Abercrombie Lawson, B.S. 1897, Berkeley.

The degree of Bachelor of Arts upon:—Emilie Avy, San Francisco; Milton Eugene Blanchard, B.L. 1887, San Francisco; Grace Esther Dibble, Berkeley; Florence May Hanna, Oakland; Mary Eugenia Loy, Berkeley; George Herman Powers, Jr., San Francisco; Clara Marion Stark, San Francisco.

The degree of Bachelor of Letters upon:—Ethel May Arthur, Stockton; Edna Blum, San Francisco; Camille Levy, Santa Barbara; Cornelia McKinne, San Francisco; Guy Van Schaick, Gilroy.

The degree of Bachelor of Philosophy upon:—Mary Elizabeth Bell, Berkeley; Ella Castelhun, San Francisco; Birney Hogin Donnell, Los Angeles; Roscoe Adams Goodcell, Oakland; Edith Valerie

Henrici, San Francisco; Florence May Jones, Berkeley; Viva Barbara McArthur, San Francisco; Leon Lazare Roos, San Francisco; Rex William Sherer, Ventura; Clara Hettie Smith, Nordhoff; Otto Theodore Wedemeyer, Los Angeles; Ralston Whitecomb, Berkeley.

The degree of Bachelor of Science upon:—Roy Fryer, Pomona; Rose Zellerbach, San Francisco; Irving Cowan Allen, Pasadena; John Henry Stutt, Berkeley; Alpheus Fuller Williams, Kimberly, South Africa.

At a meeting of the Graduate Council, December 2, 1898, Professor Slate presented the following:

To the Graduate Council:

Your committee, appointed to consider matters concerning the University Library, submits the following report:

The Librarian, in a report to the Academic Council, has made a statement of the number of books lost to the Library during recent years, and has added an estimate of the added cost of administration which would be involved in the exclusion of students from access to the shelves of the Library. As this report has been printed and is in the hands of members of the Graduate Council, it is unnecessary to restate its contents.

The committee in conference with the Librarian, found what seems an insuperable obstacle to the plan of depriving the students of the privilege which they now enjoy of free access to the Library shelves. Their exclusion from the main floor and the galleries would so reduce the space available for reading as to materially interfere with the usefulness of the Library. The plan could be carried out only in a new and adequate library building.

On motion the report was adopted.

At the same meeting the following resolution was adopted:

Resolved: That the ability to read and to comprehend original papers in German and French be considered the criterion of those prerequisites of the degree of Doctor of Philosophy in the Scientific Departments.

The following recommendations by the committee appointed by the Regents to consider and suggest the several colleges to the Faculties of which the members of the Lick Astronomical staff shall be added, and to prepare a detailed

plan for the undergraduate and graduate courses in Astronomy were adopted by the Graduate Council, December 2, 1898, and by the Academic Council, December 9, 1898:

1. That in assigning the Lick Astronomical staff to the various Faculties the ordinary membership rules be applied. (In accordance with these rules the astronomers will be members of the Faculties of the Colleges in which they are giving instruction.)

2. That President Kellogg and Director Keeler recommend to the Honorable Board of Regents the titles to be conferred upon the astronomers by virtue of their duties of instruction.

3. That the Honorable Board of Regents be requested to rescind their action in giving the name of College Astronomical Department to the department at Berkeley, and that it be named The Berkeley Astronomical Department. (This request is prompted by the fact that the name conferred upon the local department is not representative of the character of the work of the department.)

4. That all applicants for admission to the Lick Observatory shall first qualify as graduate students through the Admissions Committee. After being admitted to the University as graduate students, their cases shall be referred to a standing committee consisting of the President of the University, the Director of the Lick Observatory, a representative of the Berkeley Astronomical Department, and the heads of the Departments of Mathematics and Physics.

5. That Director Keeler be added to the Admissions Committee of the Graduate Council, to facilitate the disposal of applications when the special committee can not meet.

6. That intending applicants for admission to the Lick Observatory be advised through the REGISTER to apply before May first of each year.

7. That Director Keeler and Associate Professor Leuschner constitute a sub-committee on astronomical courses of instruction.

At a meeting of the Academic Council held October 14, 1898, the following letter from the Secretary of State was read and referred to a committee consisting of Professor Fryer, Associate Professor Margolis, and Dr. Nutting:

DEPARTMENT OF STATE,

WASHINGTON, September 13, 1898.

To the President of the University of California,

Berkeley, California;

SIR:—The Government of Italy has, through its Embassy in this city, announced that the Twelfth International Congress of Orientalists will be held at Rome on October 2, 1899.

The participation of universities, colleges, scientific bodies and men of learning is desired, and they are requested to send papers of a nature to interest Orientalists.

The Royal Government hopes that as the University of California sent delegates to the Eleventh Congress, it will be again represented at the Congress of 1899.

Respectfully yours,

WILLIAM R. DAY.

At a meeting of the Council on November 11, 1898, the committee reported as follows:

The committee appointed to consider a letter referring to the Twelfth International Congress of Orientalists to be held at Rome, October 2, 1899, submit the following report to the Academic Council:

The committee suggest that a reply should be sent by their chairman as soon as possible through the Italian Embassy at Washington:

First—Acknowledging the receipt of the invitation extended to this University to forward papers to the Congress, of a nature to interest Orientalists, and to send a delegate to represent the University.

Second—Stating that members of the Faculty connected with the Semitic, Oriental, and other departments will be asked to forward papers to the Congress as requested.

Third—Stating that the Academic Council will bring before the notice of the Board of Regents their opinion that it is strongly advisable, on account of the special importance of Oriental affairs at the present time, and on account of the proposed extension on a large scale of the University of California, for a delegate to be sent to Rome to represent the University at the Congress.

JOHN FRYER,

MAX MARGOLIS,

HERBERT CHESTER NUTTING.

The report was adopted by the Academic Council, and sent to the Academic Senate for confirmation.

At a meeting of the Academic Senate held November 16, 1898, the report was confirmed, and a recommendation that the matter be brought to the attention of the Board of Regents was concurred in.

At a meeting of the Academic Council, November 11, 1898, Professor Stringham, on behalf of the Committee on Membership of the Academic Senate, reported that the Committee had considered the question referred to it, October 14, 1898, with reference to the membership in the Academic Council of a professor emeritus, and that the Committee had decided that the title Professor Emeritus when conferred upon one not engaged in instruction did not carry with it a claim to membership in any faculty nor in the Academic Council. On motion, the report of the Committee was adopted.

At a meeting of the Academic Council, December 23, 1898, it was voted that Section 43 of the Joint Regulations, authorizing instructors at discretion to hold final examinations during regular recitation hours, be abrogated.

At the same meeting it was moved and seconded that examinations held during recitation periods, and all examinations held at any times other than at the stated examination periods, be not announced in advance. It was voted to amend by having notice of this action printed, as well as action concerning abrogation of Regulation No. 43, as above; and the original motion thus amended was carried.

At the same meeting it was voted, that information furnished by members of the Council concerning candidates for Teachers' Certificates be regarded as confidential and only for the use of the Committee on Teachers' Recommendations.

